

FIG. 1

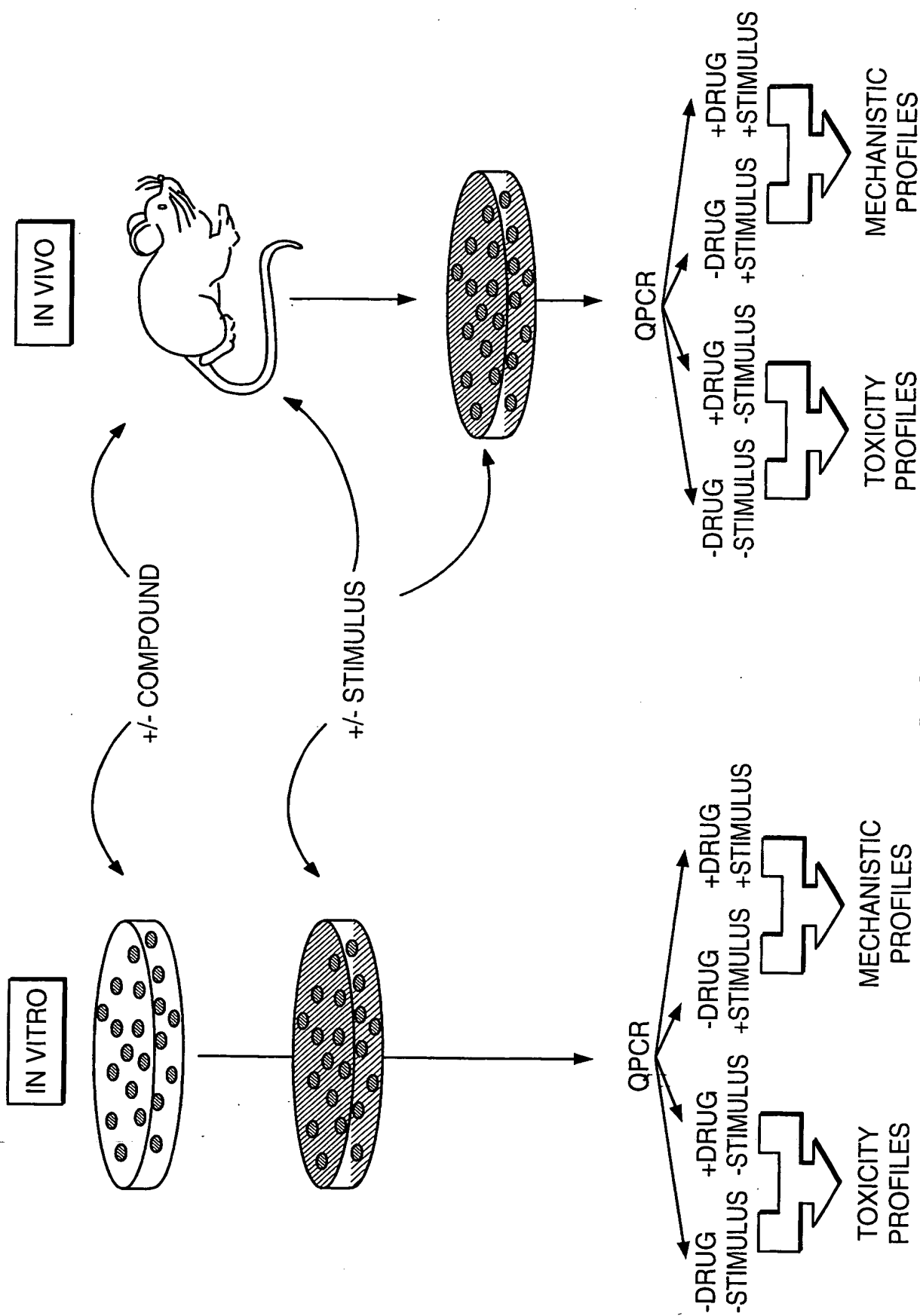


FIG. 3

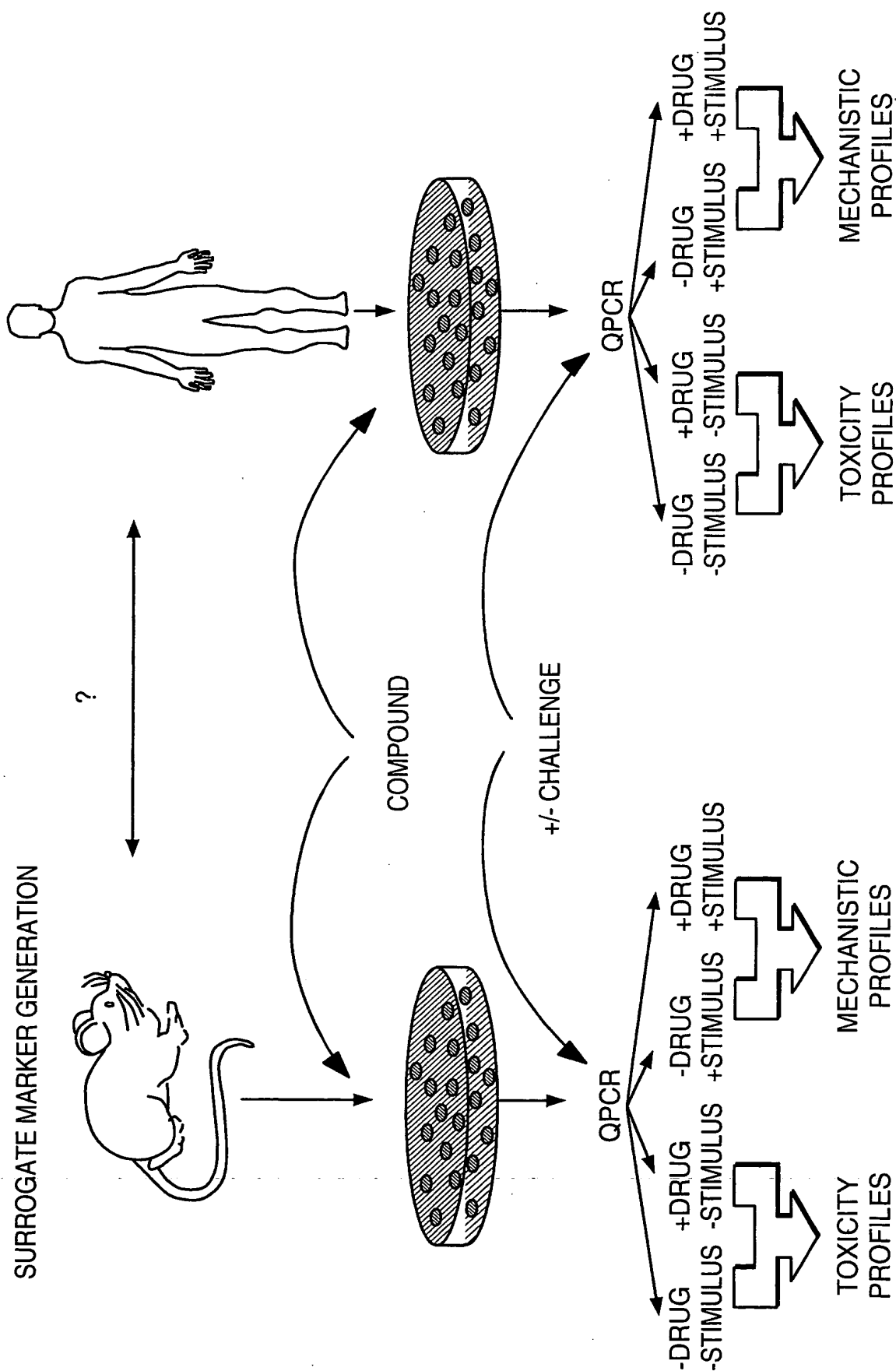
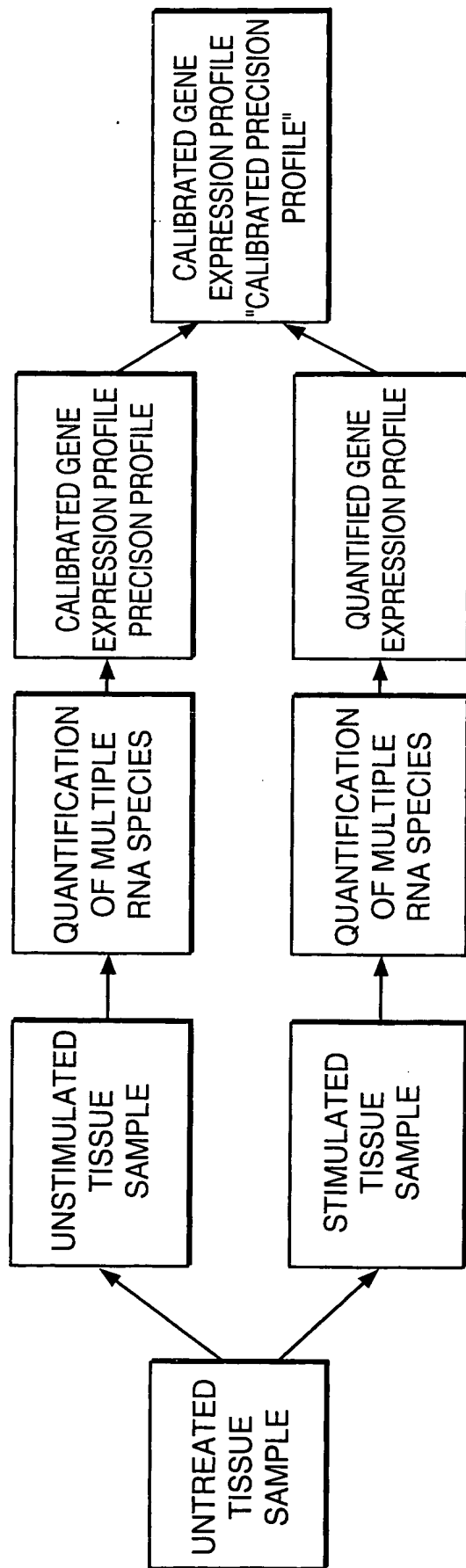


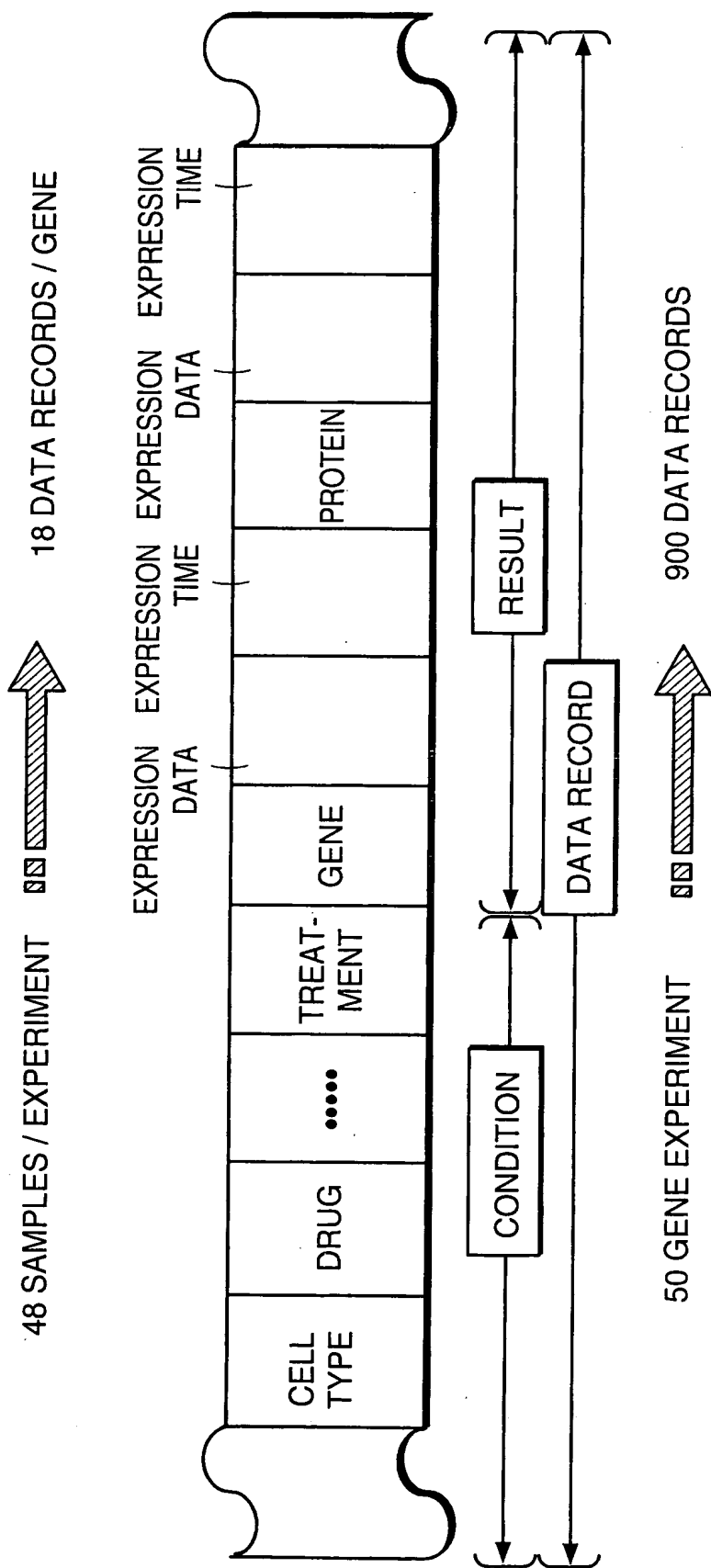
FIG. 4

PRODUCING A "CALIBRATED PRECISION PROFILE"



SOURCE PRECISION MEDICINE

FIG. 5



EACH NEW RECORD IMPROVES THE PREDICTIVE POWER OF THE DATABASE AND INCREASES ITS VALUE

FIG. 7

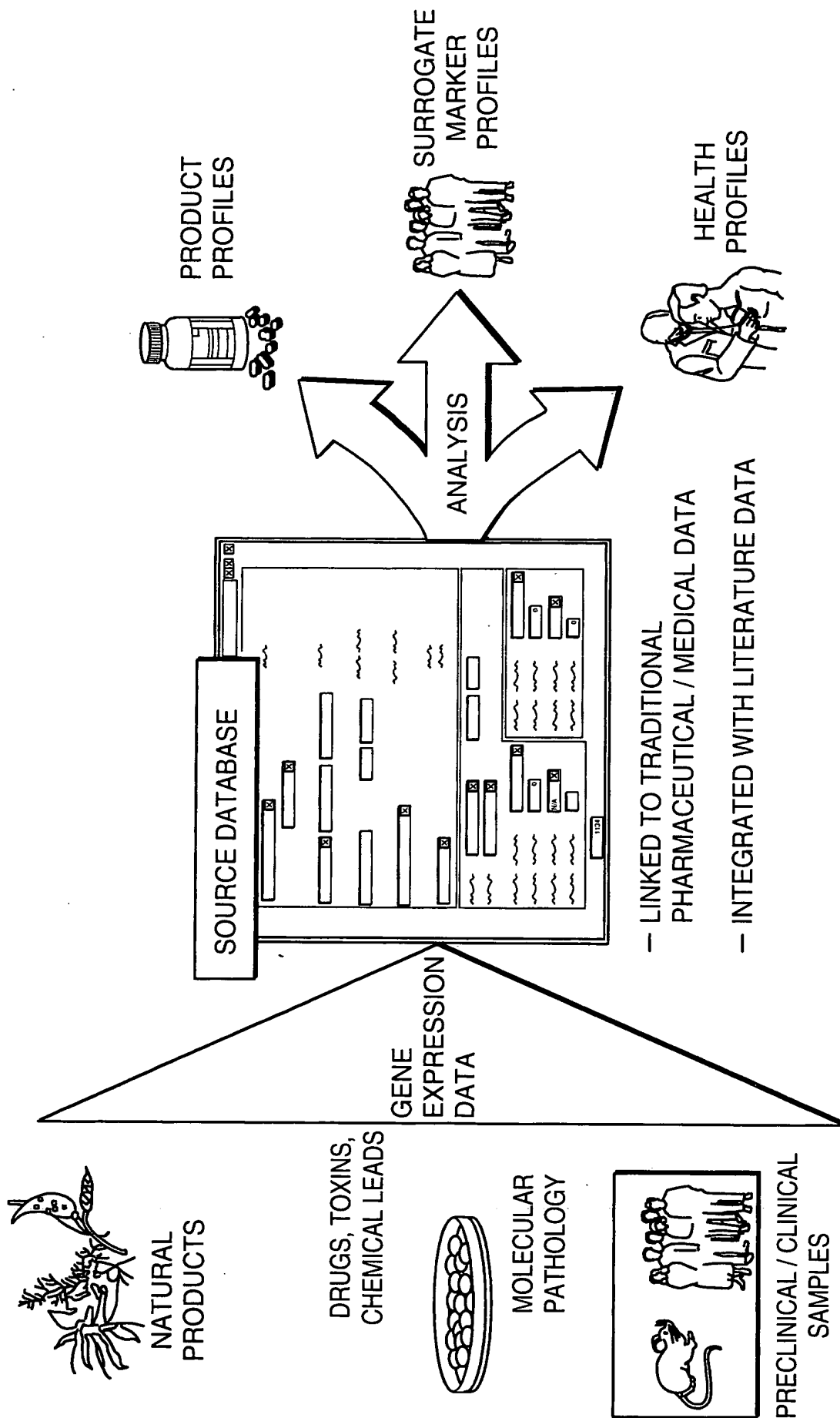


FIG. 8

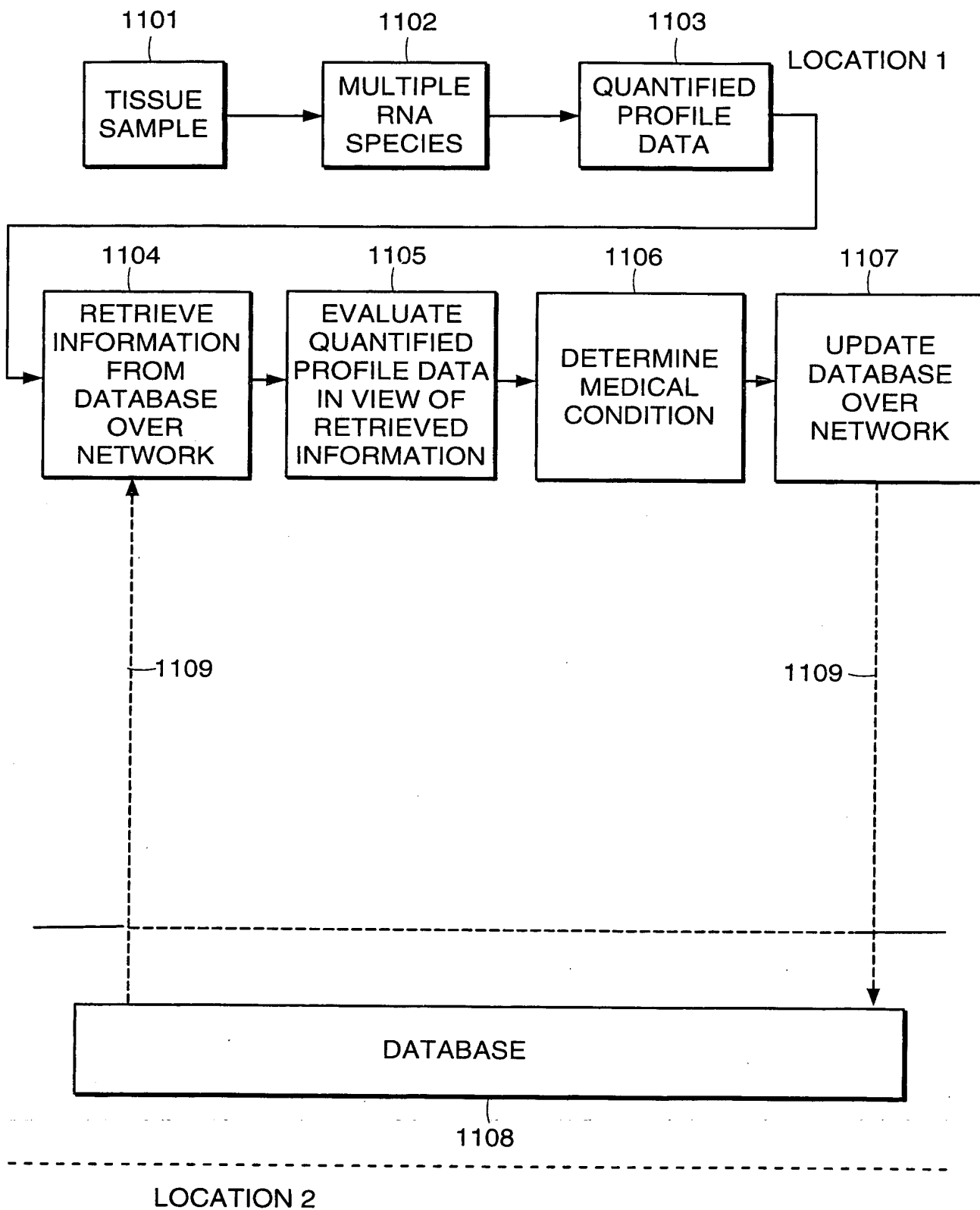
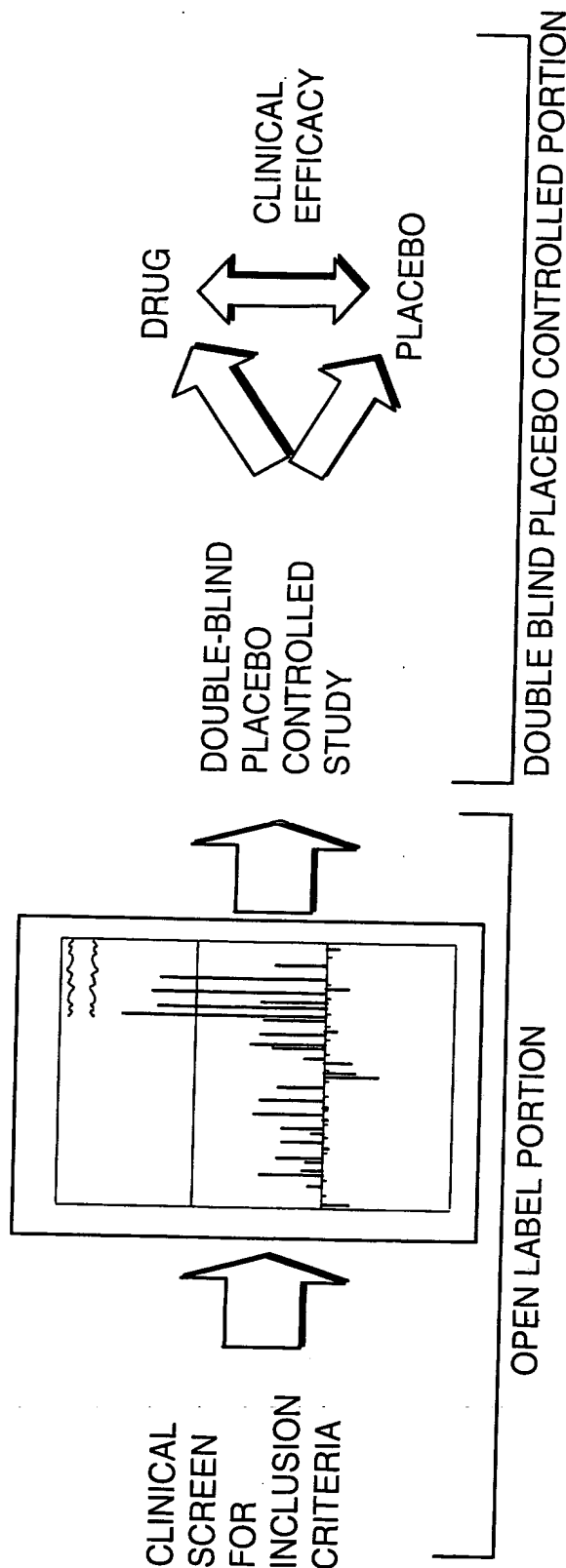


FIG. 9

PHASE TWO CLINICAL TRIAL DESIGN USING PRECISION PROFILING



-THE TARGET CLINICAL POPULATION CAN BE EVALUATED FOR RESPONSIVENESS TO THERAPY BY FOCUSING ON DRUG RESPONSE GENE PROFILING

- "SIGNAL TO NOISE" CAN BE ENHANCED BY REMOVING NON-RESPONDERS FROM THE SECOND PORTION OF THE STUDY

-DOSE CAN BE OPTIMIZED ON AN INDIVIDUAL BASIS TO MAXIMIZE THE IMPACT ON THERAPEUTIC OUTCOME

- CLINICAL RESPONSE/NON-RESPONSE CAN BE CORRELATED WITH DISEASE RESPONSE GENE PROFILING

- CLINICAL EFFICACY CAN BE MEASURED WITH GREATER PRECISION

- FUTURE STUDIES CAN BE PLANNED WITH GREATER CERTAINTY AND STATISTICAL POWER

- COMPARISON WITH CLINICAL DATABASES CAN PROVIDE IMPORTANT INFORMATION REGARDING COMPETITIVE POSITIONING RELATIVE TO EXISTING THERAPIES

FIG. 10a

FIG. 10b

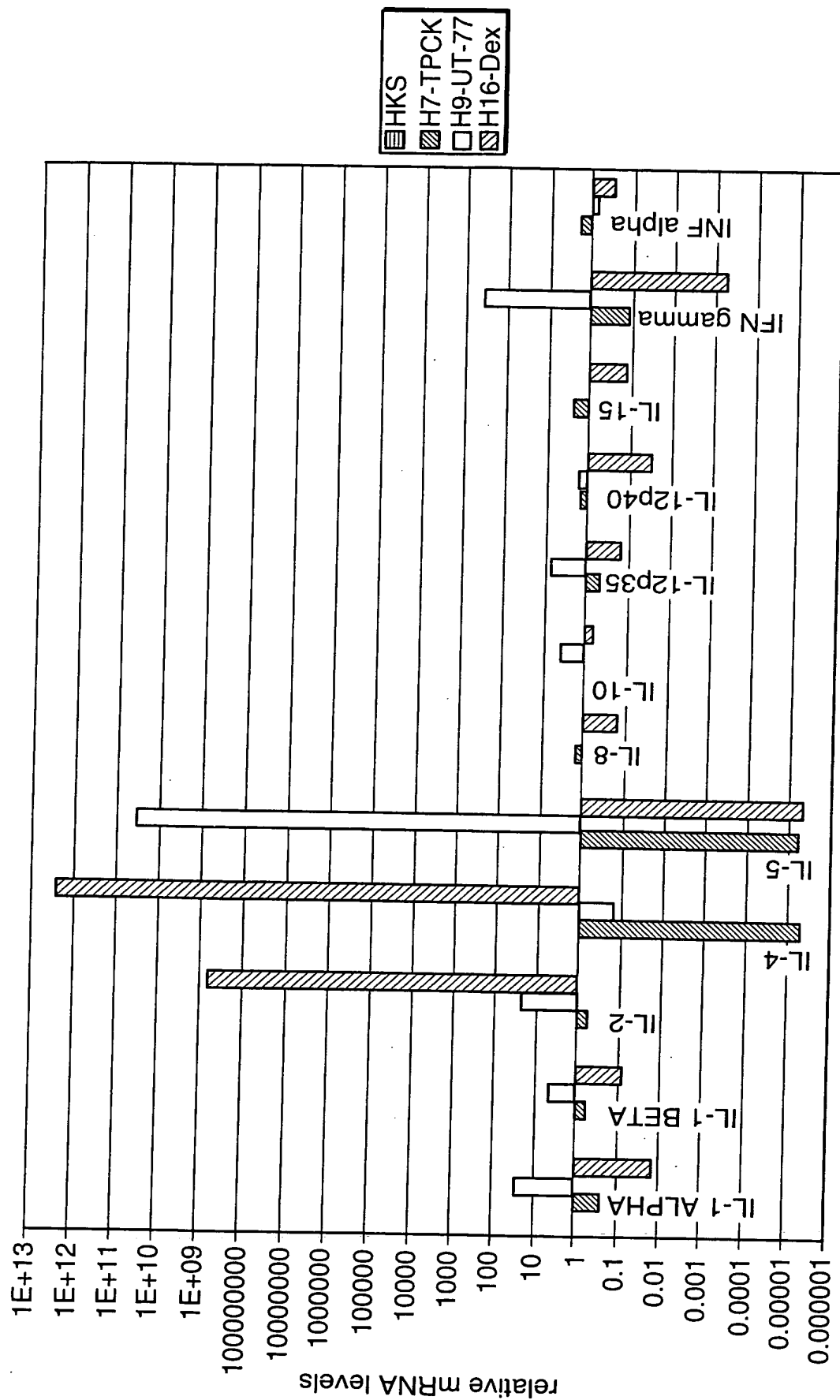


FIG. 11a

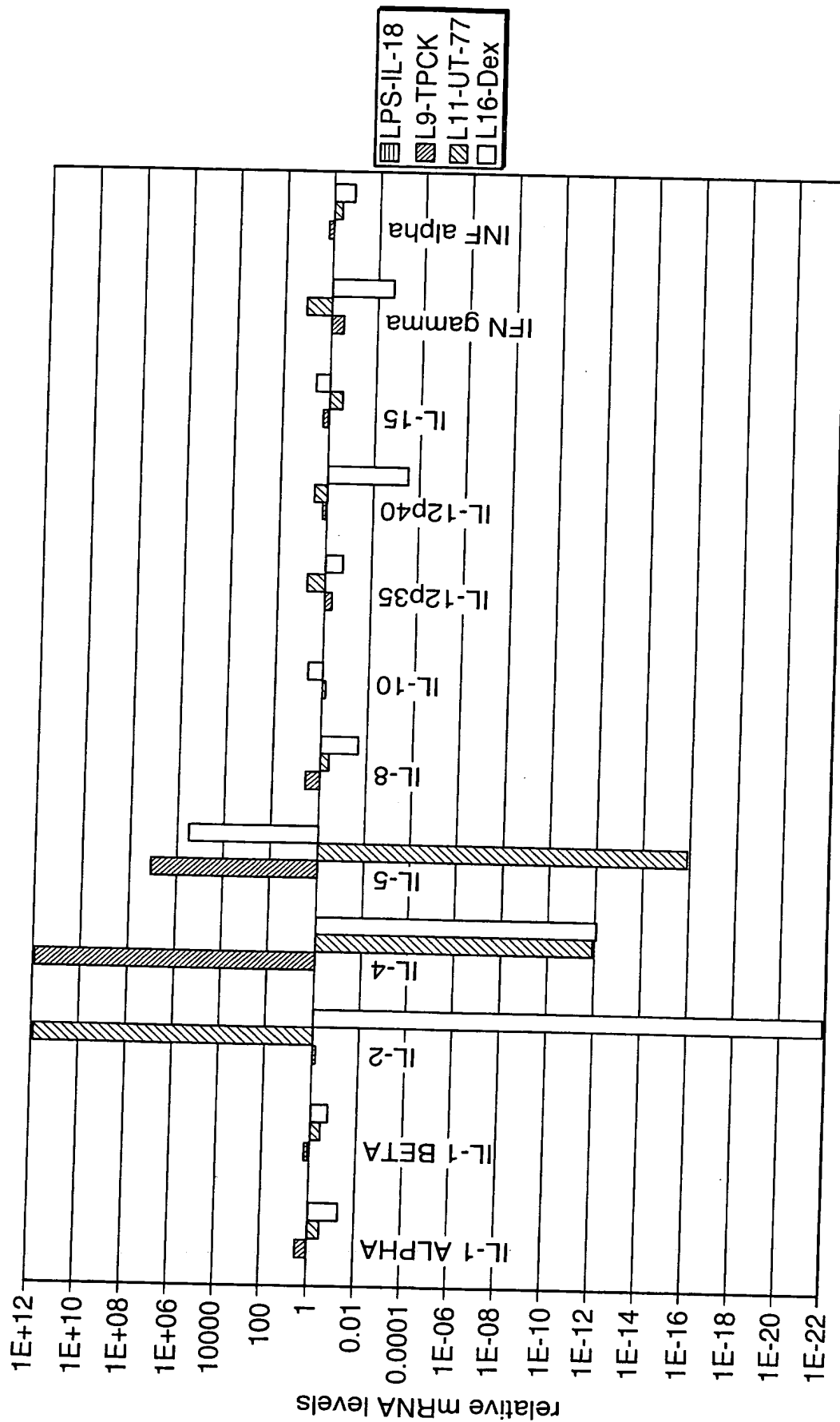


FIG. 11b

COMPARATIVE DRUG PROFILING SHOWS DIFFERENCES AMONG ANTI-
 INFLAMMATORY DRUGS WITH DIFFERENT MECHANISM OF ACTION

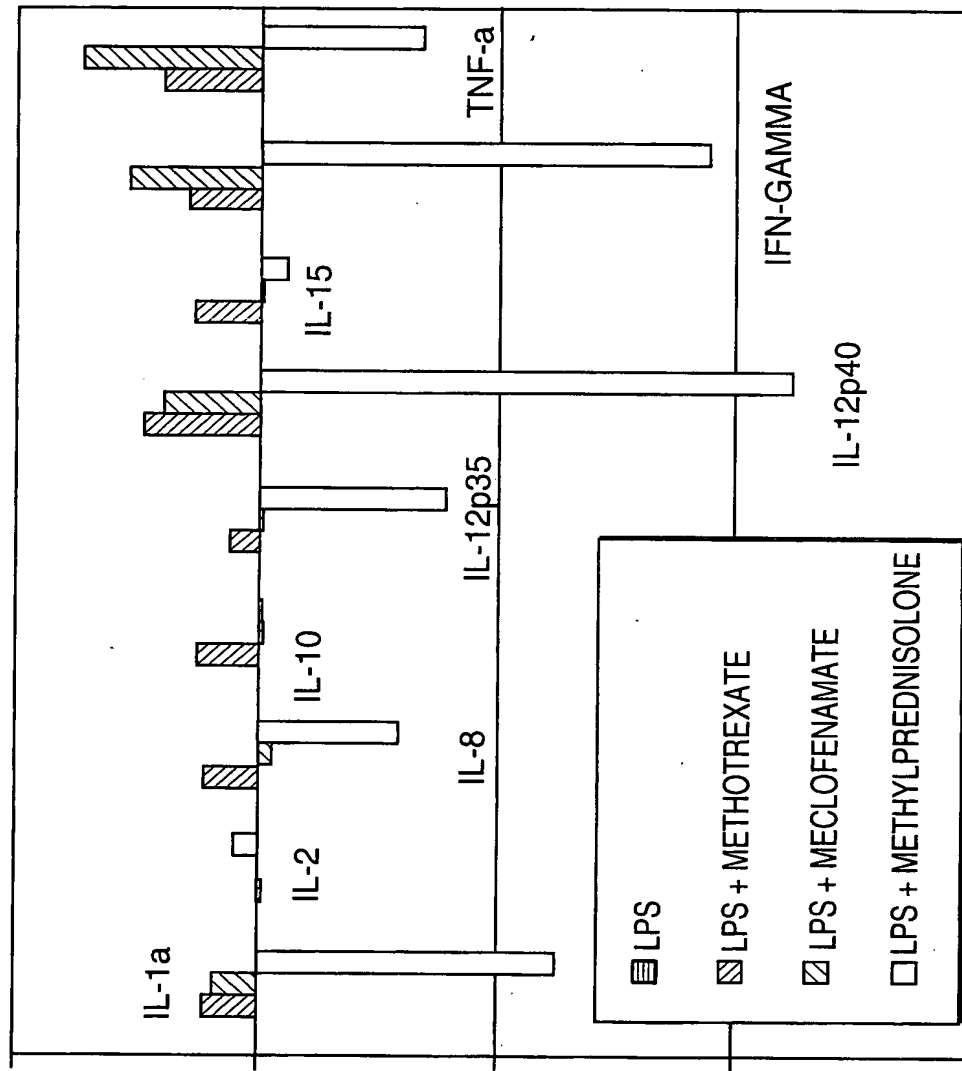


FIG. 12a

991116 LPS, HKS, PHA COMPARATIVE STIMULATION OF WB AT 6 HOURS

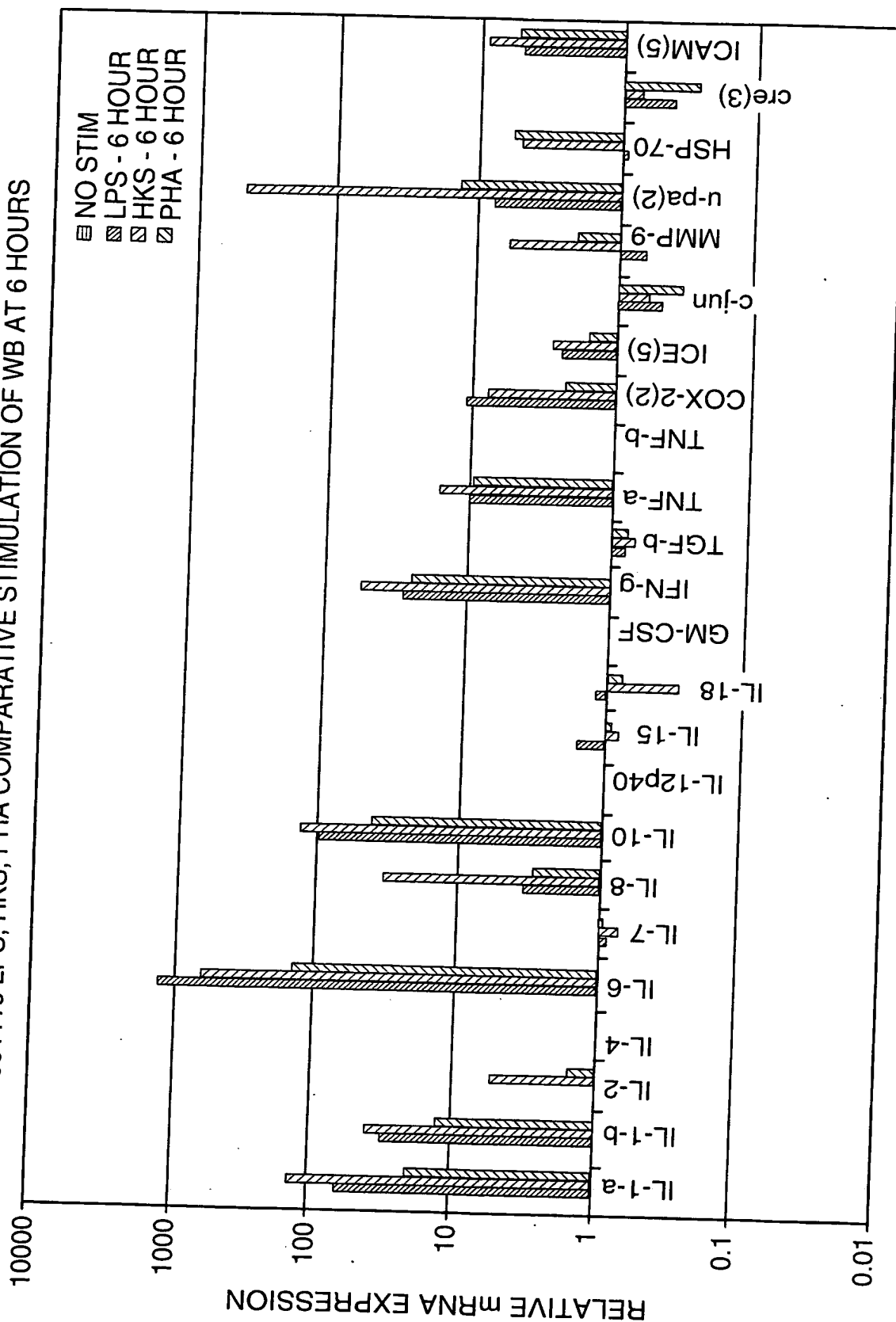


FIG. 13a

991028 LPS, HKS, PHA COMPARATIVE STIMULATION OF WB - 6 HOUR

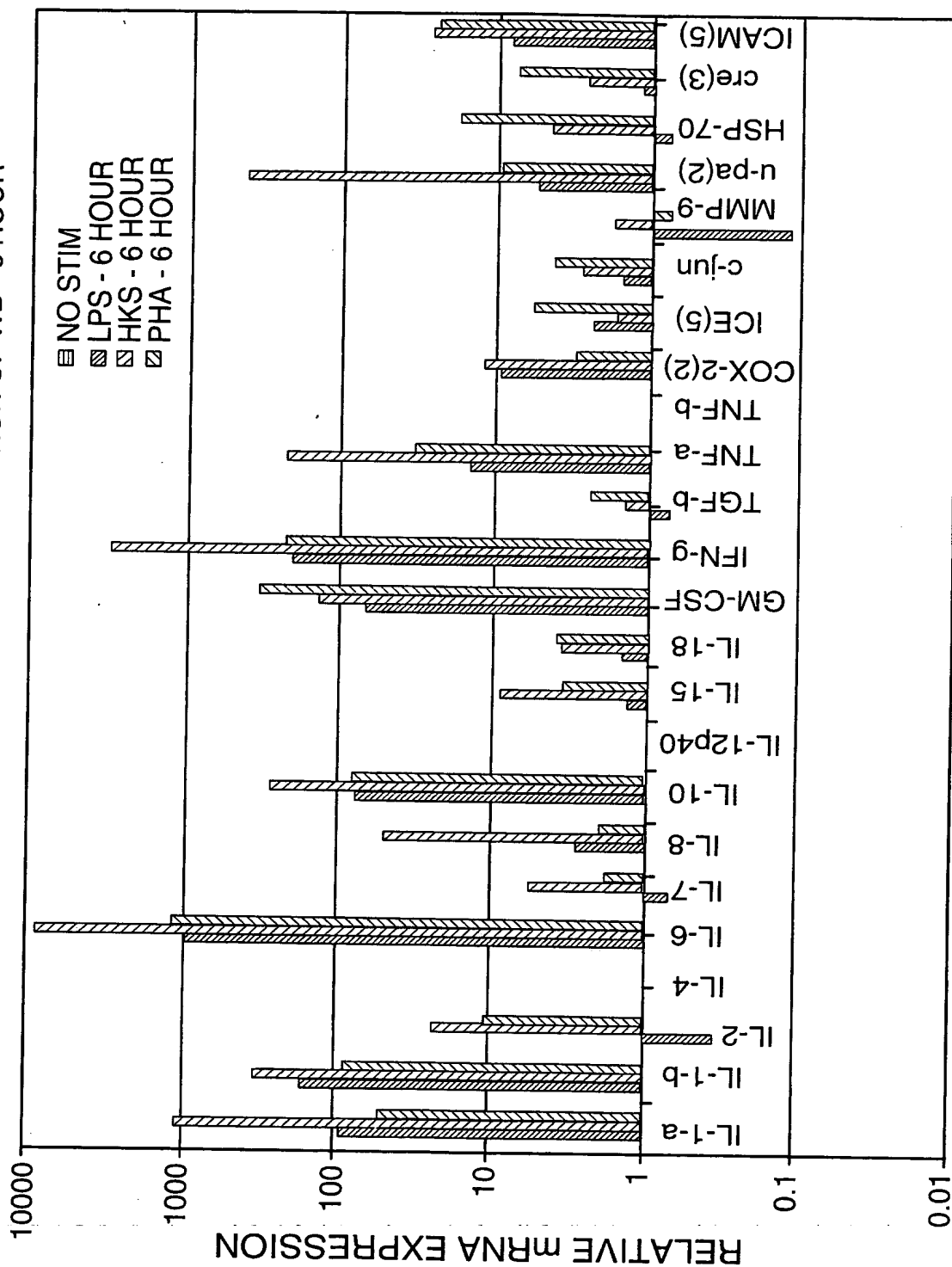


FIG. 13b

INDIVIDUAL COMPARISON OF LPS STIMULATION • 991026 VS. 991116 DONOR: TK

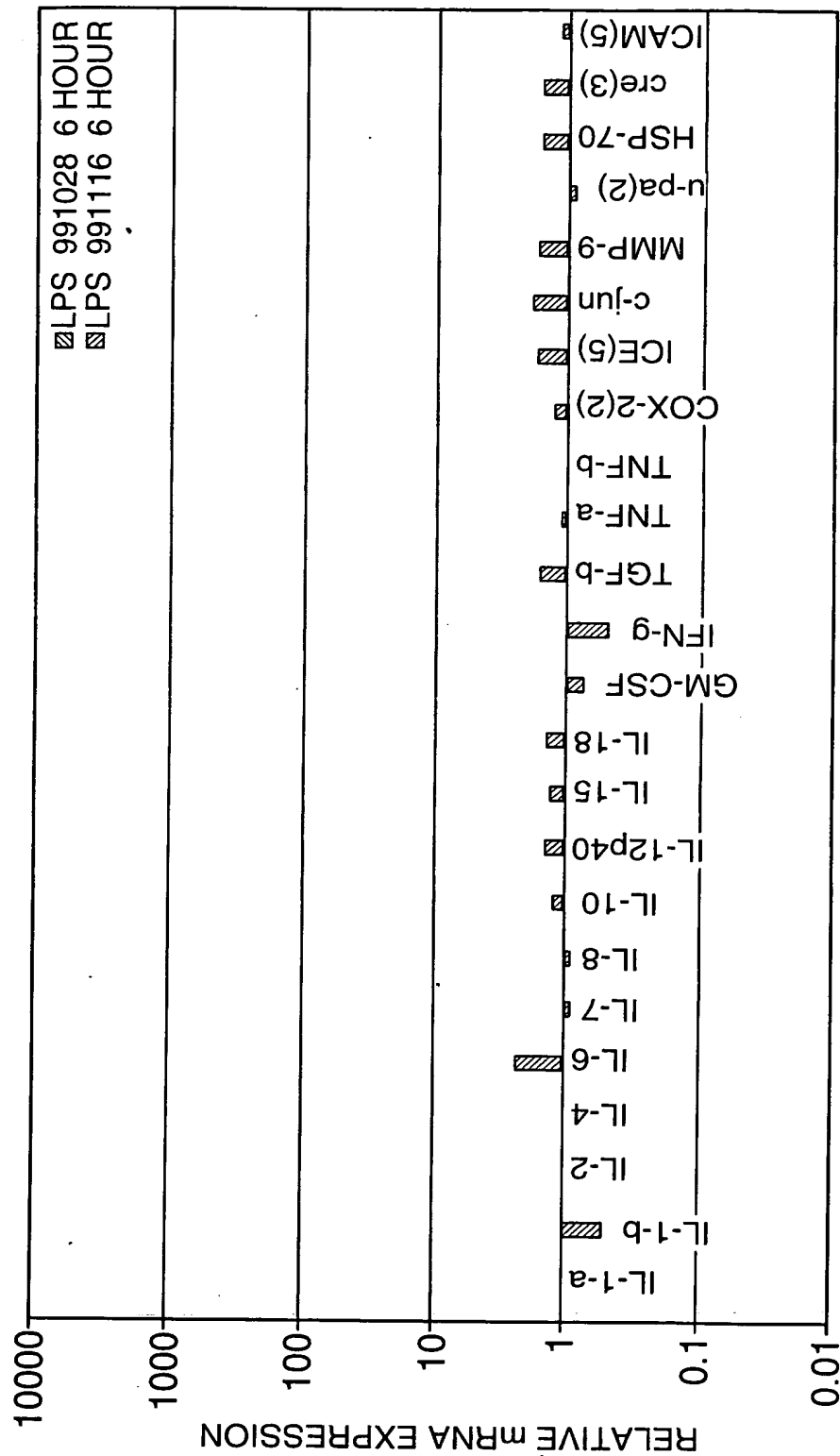


FIG. 13c

INDIVIDUAL COMPARISON OF DONOR SAMPLE WITH NO STIMULATION
6 HOUR - 991028 VS. 991116 DONOR: TK

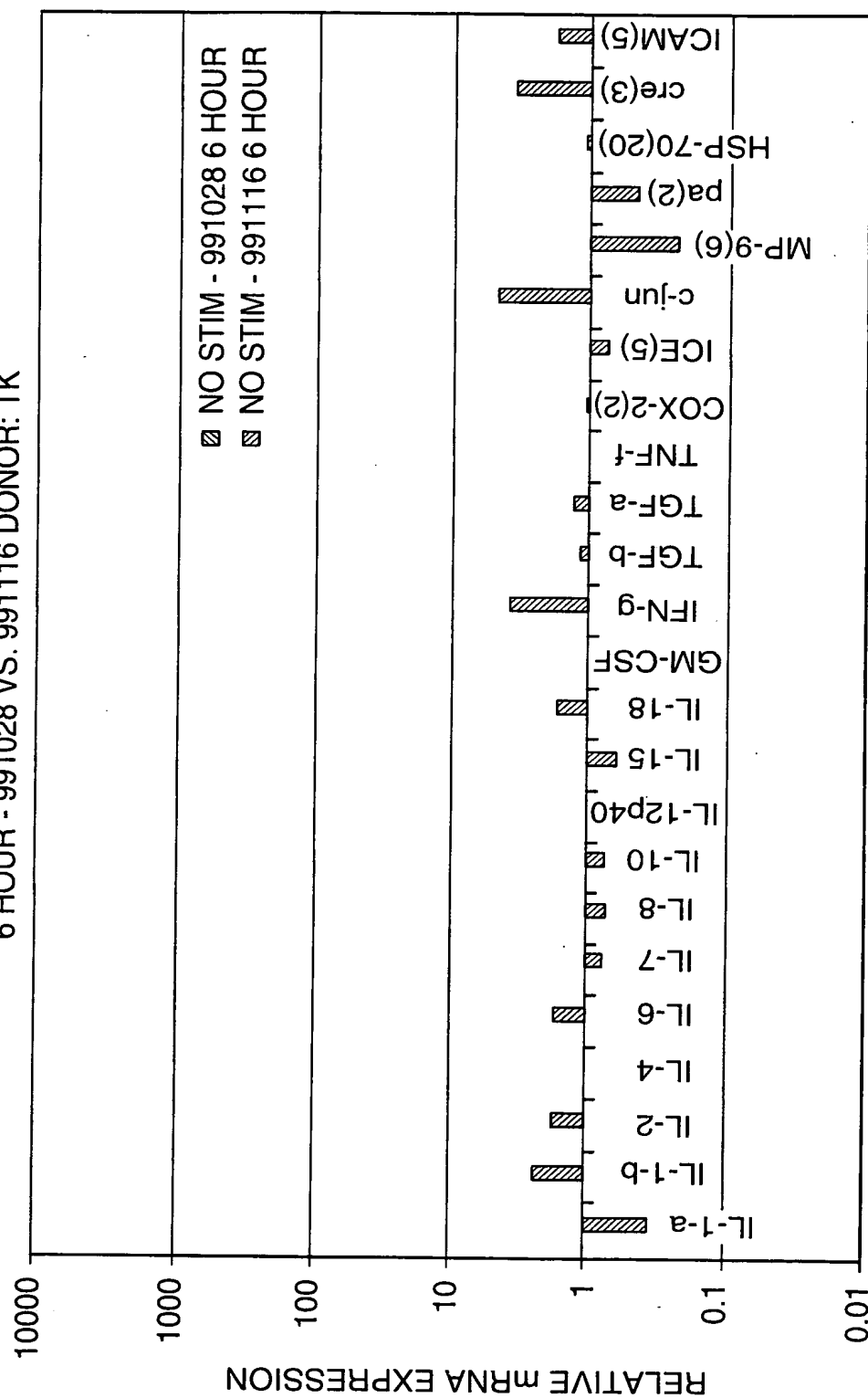


FIG. 13d

STIMULANT EFFECT ON METHYL PREDNISOLONE GENE EXPRESSION IN WHOLE BLOOD - 6 HOUR

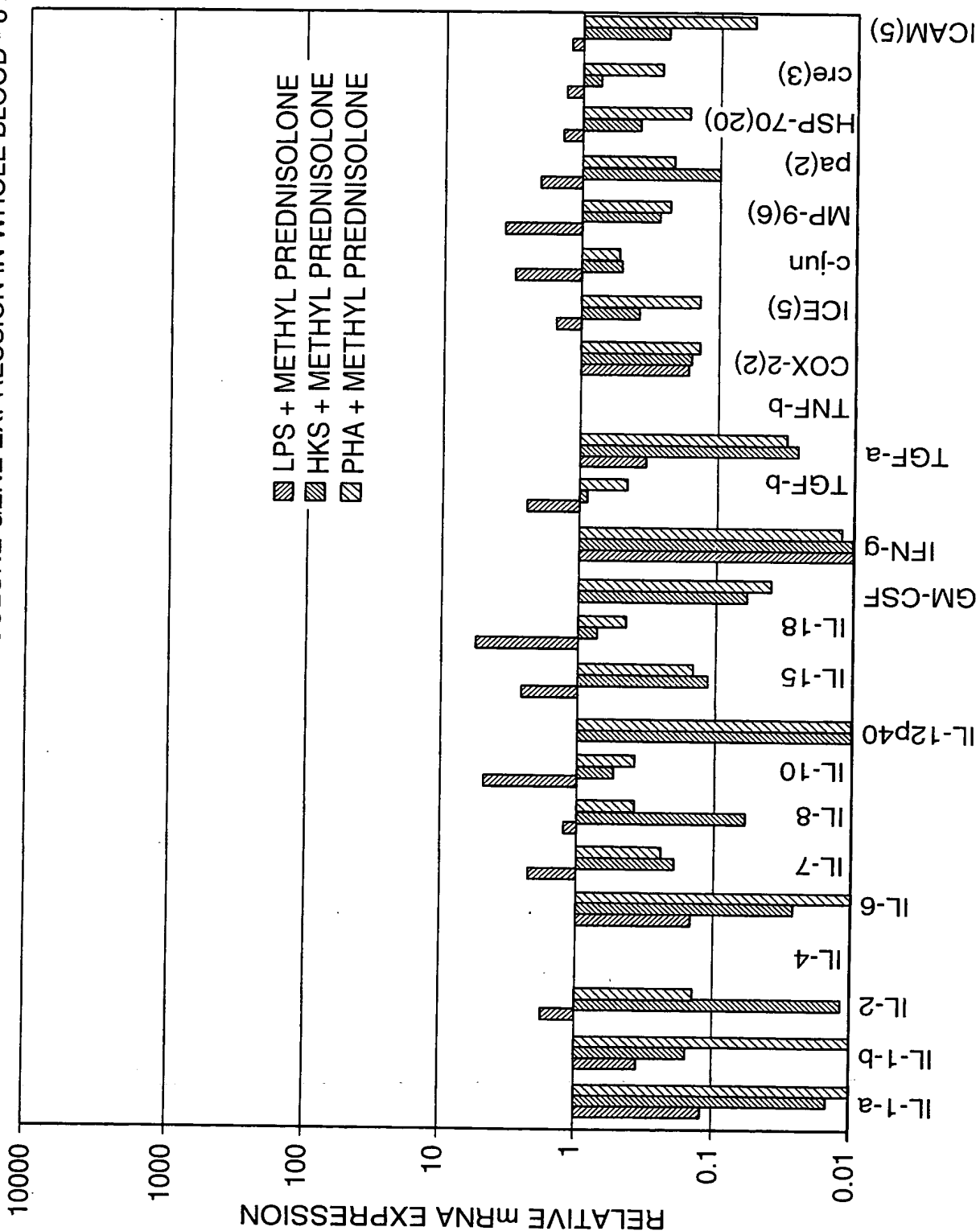


FIG. 14

COMPARISON OF IN VITRO AND IN VIVO GENE EXPRESSION IN RESPONSE TO CORTICOSTEROID TREATMENT

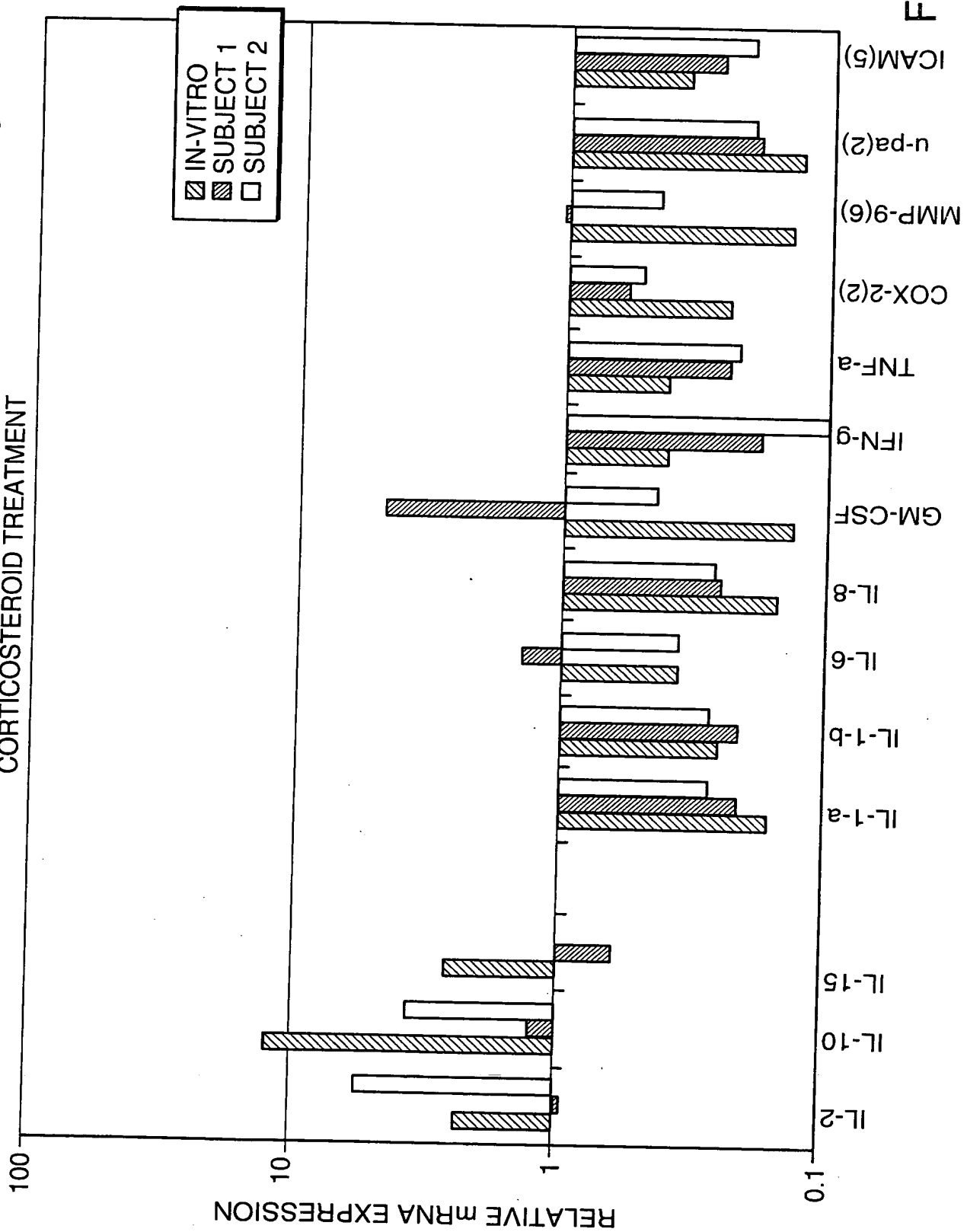


FIG. 15

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

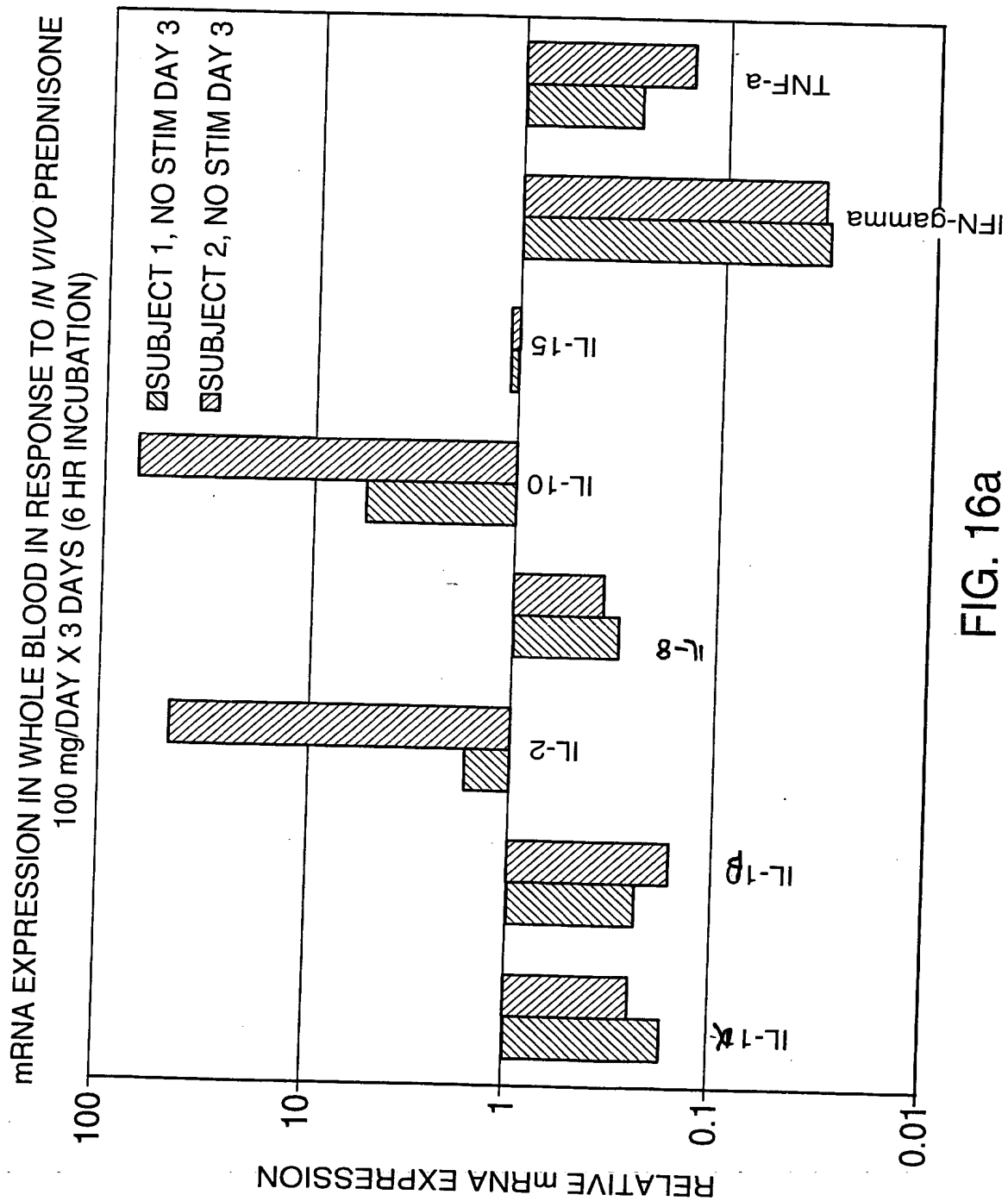


FIG. 16a

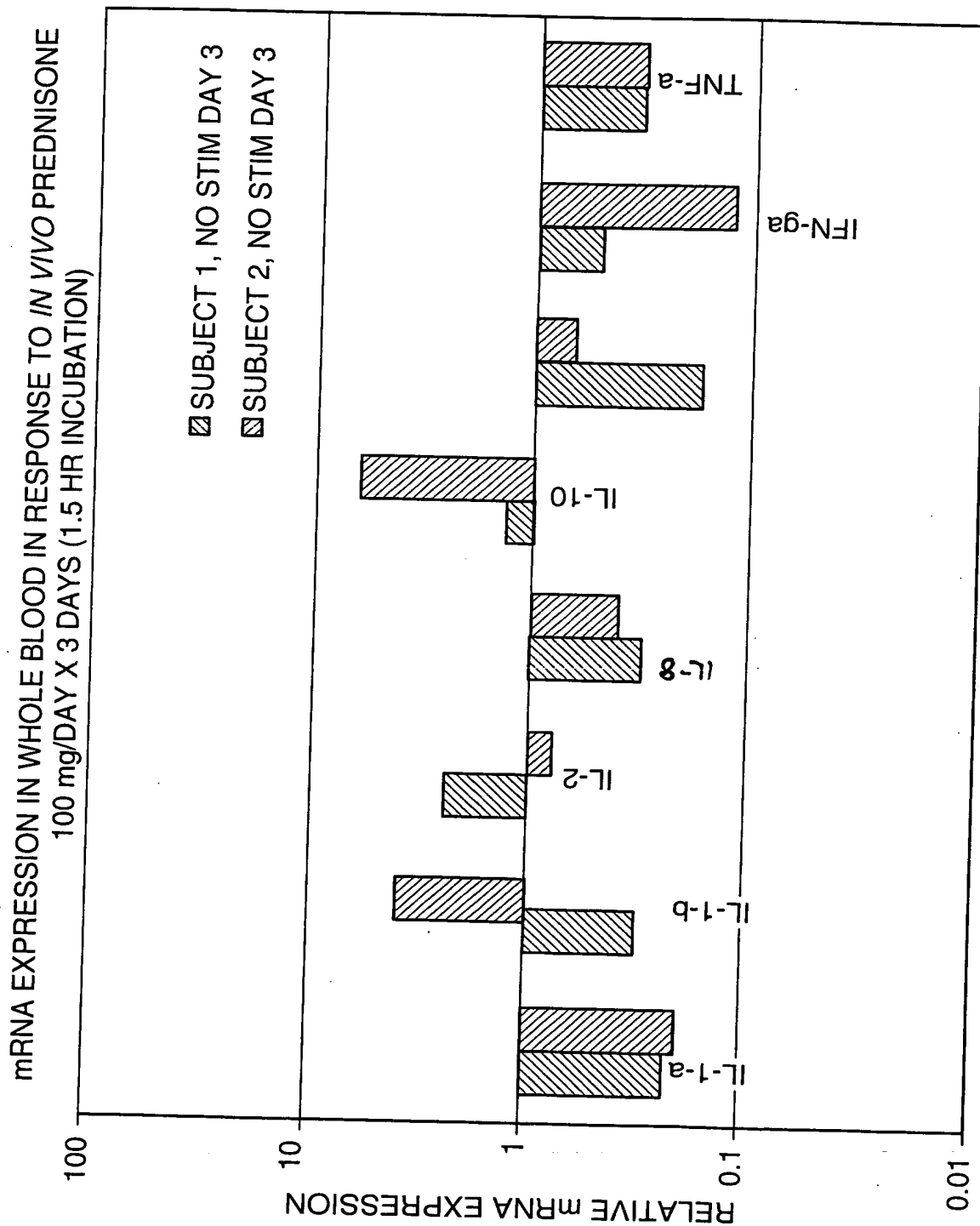


FIG. 16b

INDIVIDUAL COMPARISON - 991028 VS. 991116
DONOR: TK

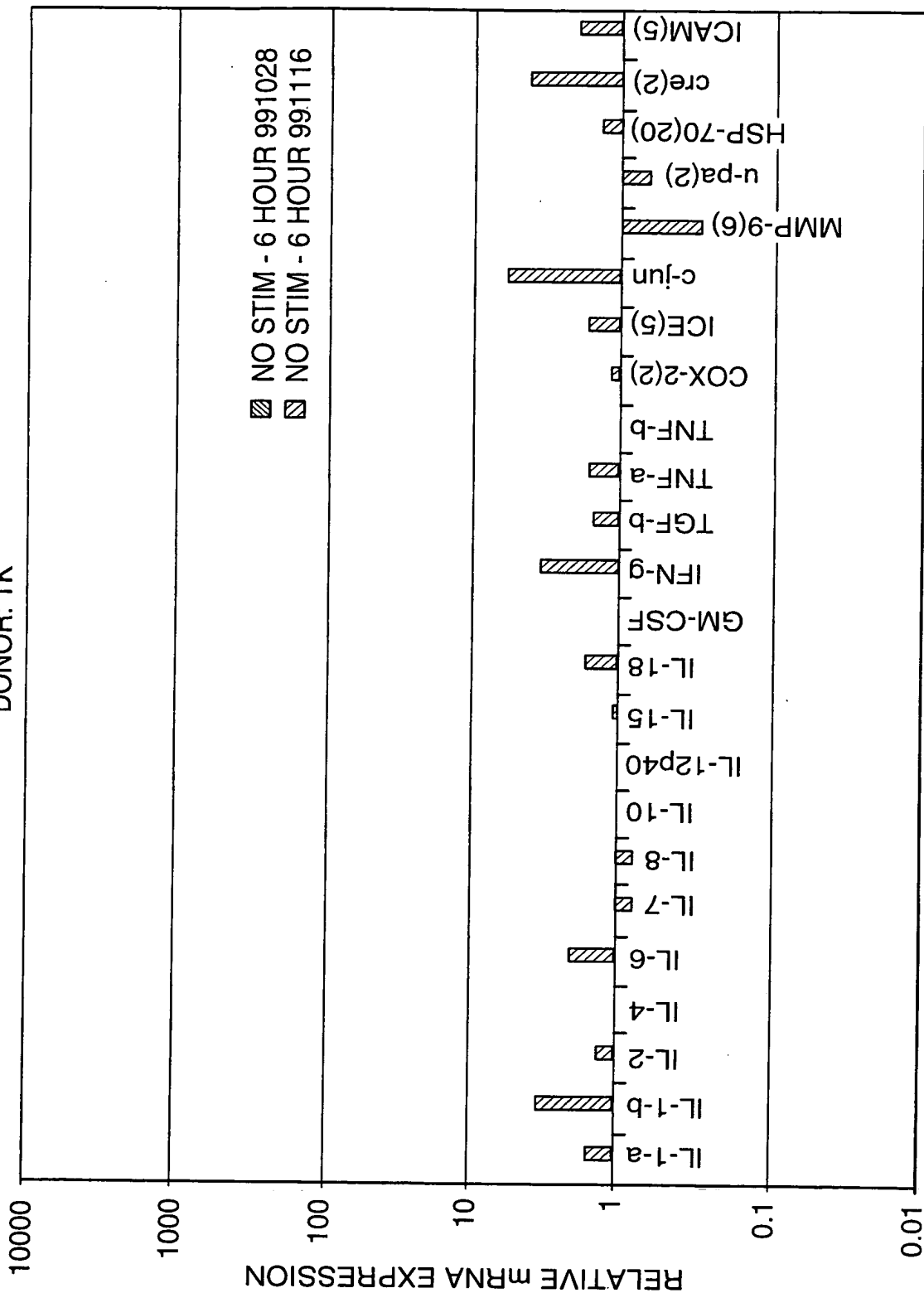


FIG. 17

PB001-036000

PB001 STUDY 2, STAGE 3
EFFECTS OF DRUG ON WHOLE BLOOD
DONOR 1

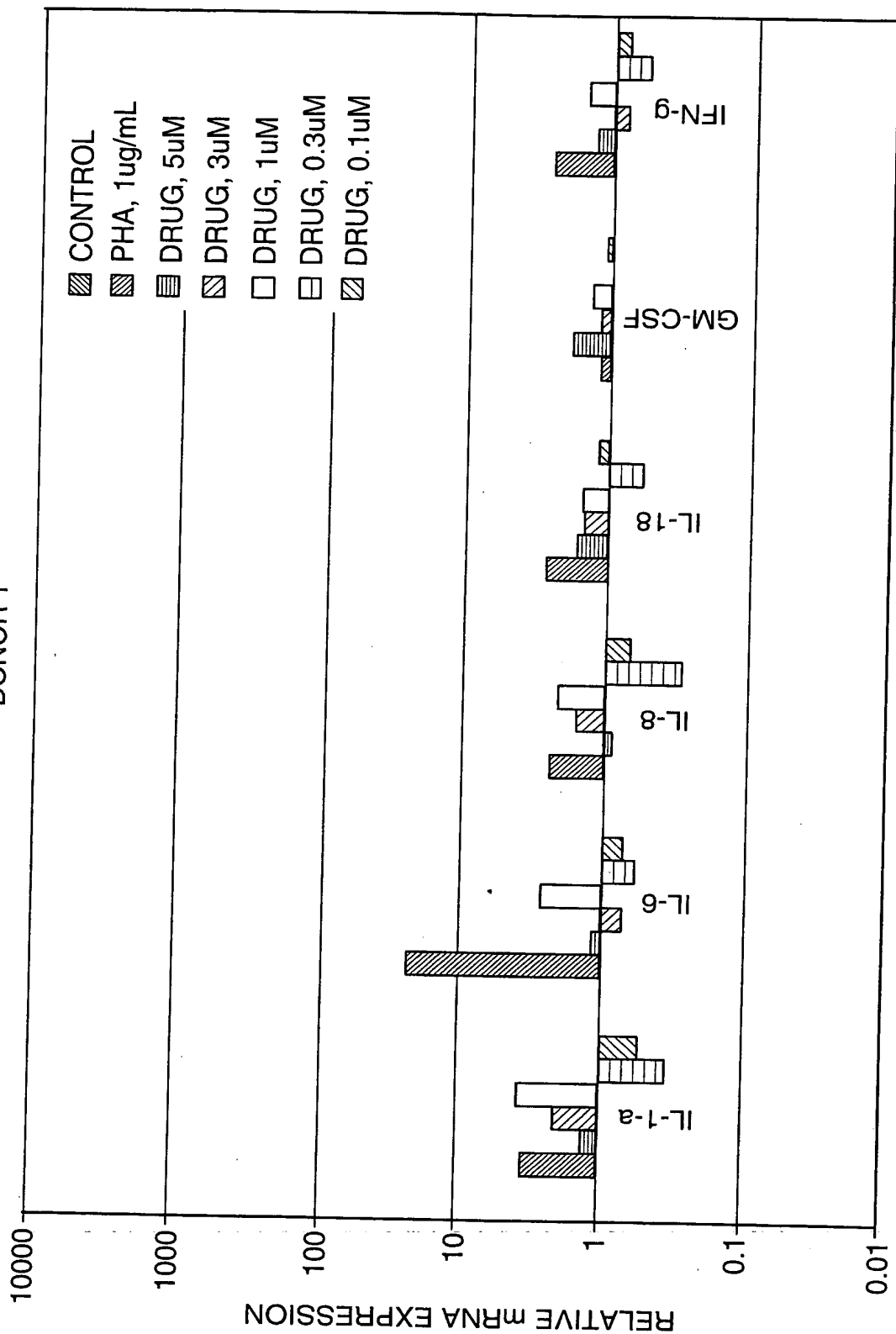


FIG. 18a

PB001 STUDY 2, STAGE 3
EFFECTS OF DRUG ON WHOLE BLOOD
DONOR 2

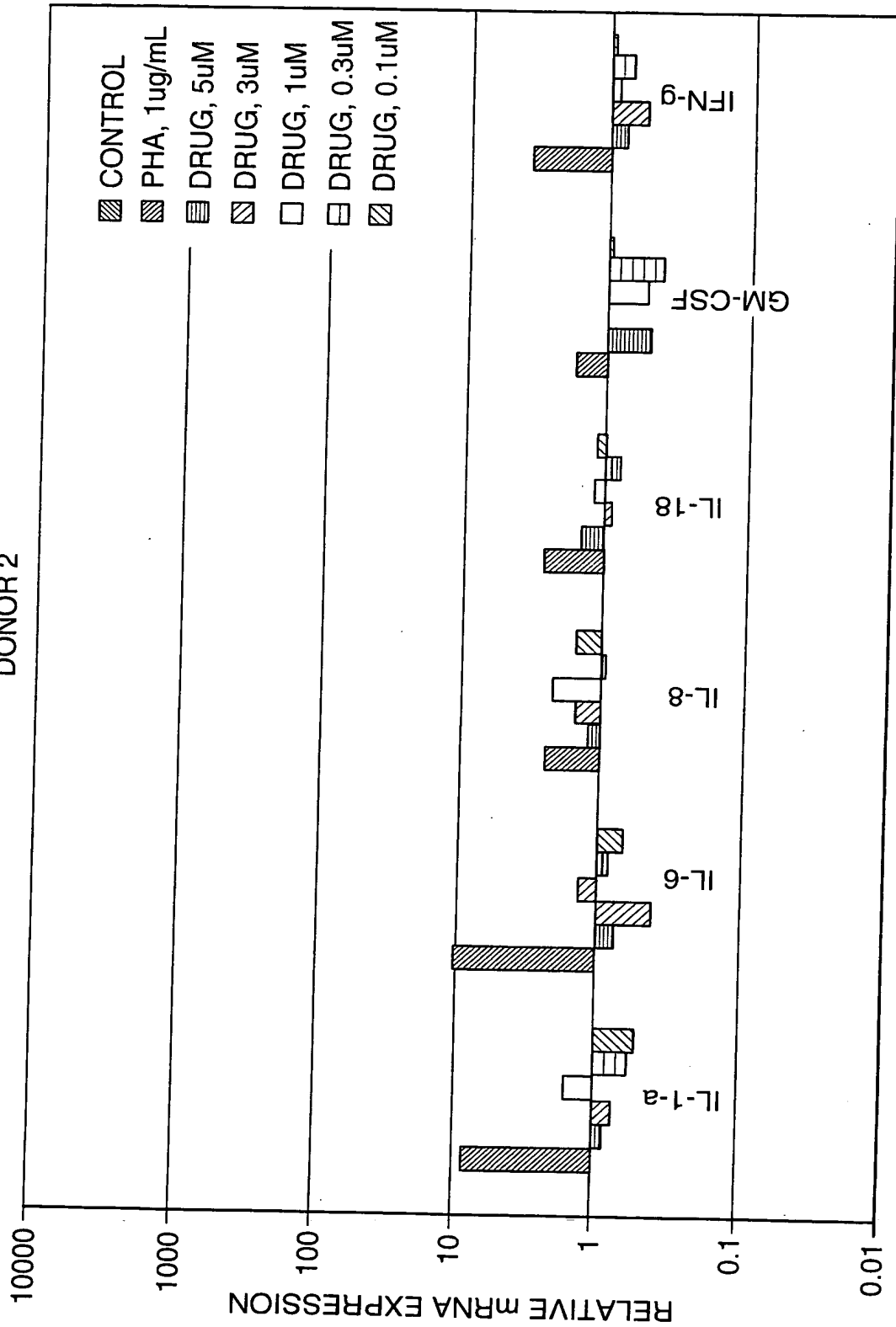


FIG. 18b

PB001 STUDY 2, STAGE 3
EFFECTS OF DRUG ON WHOLE BLOOD
DONOR 3

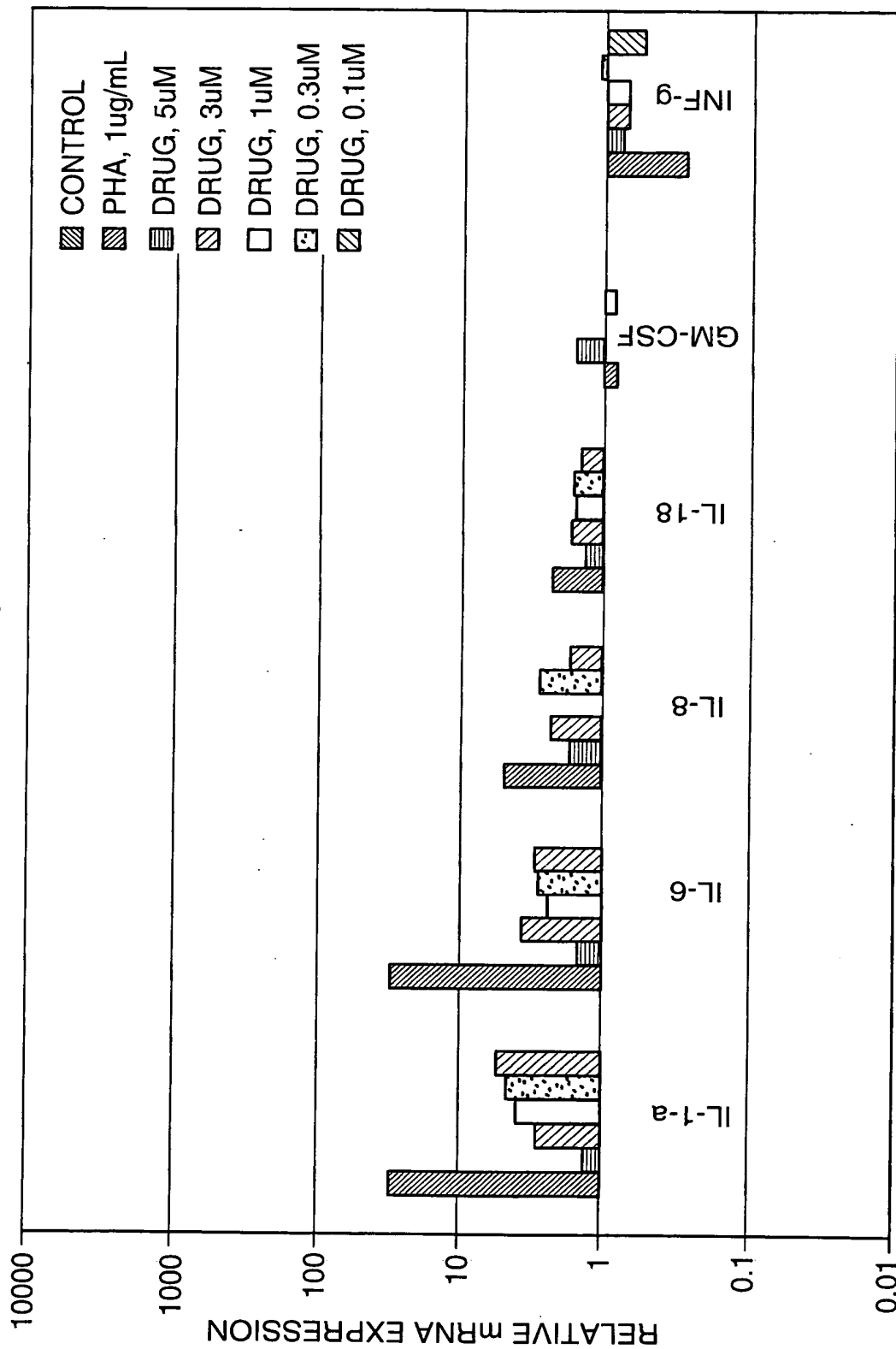


FIG. 18c

PB001 STUDY 2, STAGE 3
 EFFECTS OF DRUG ON WHOLE BLOOD
 DONOR 4

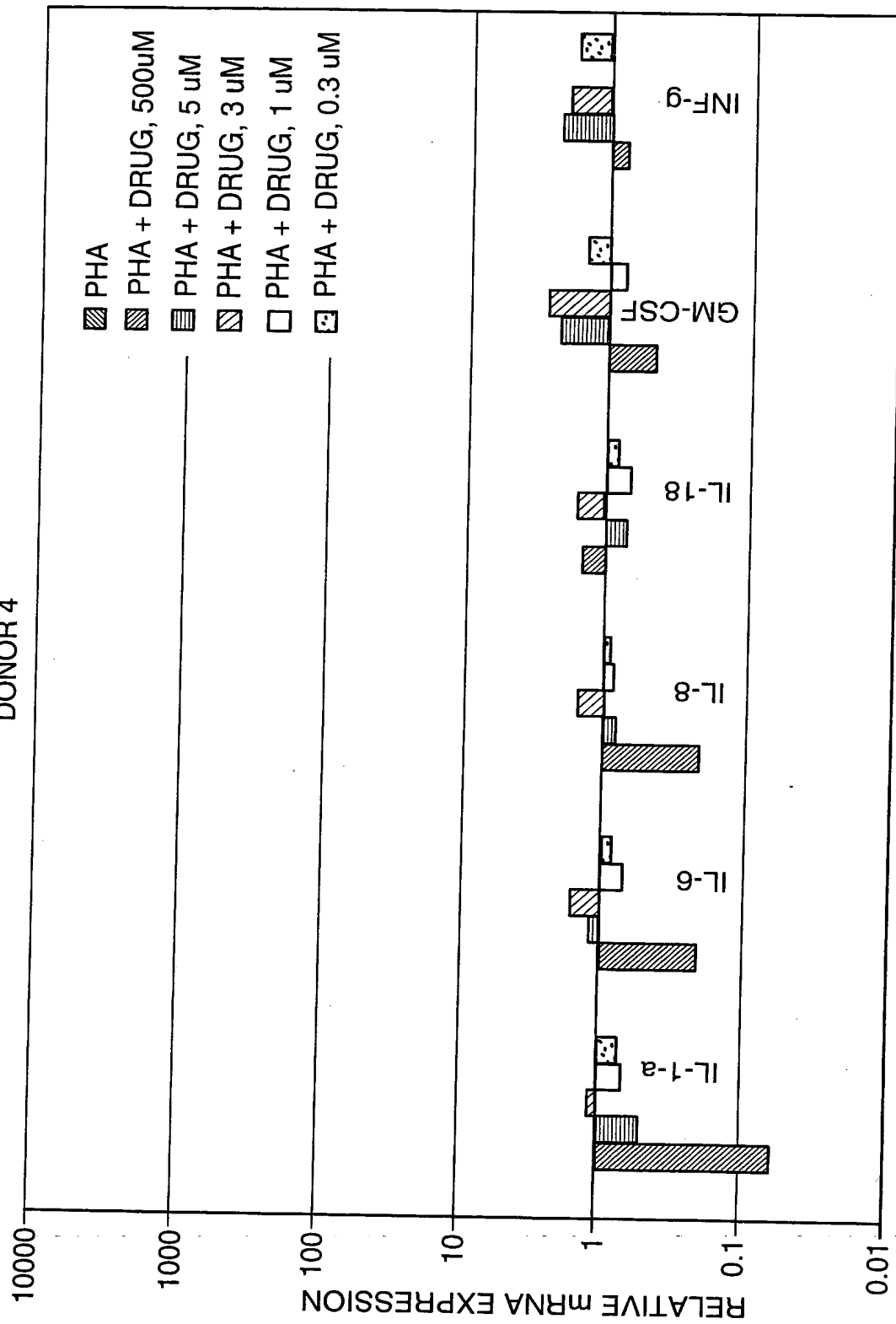


FIG. 18d

PB001 STUDY 2, STAGE 3
EFFECTS OF DRUG ON WHOLE BLOOD
DONOR 5

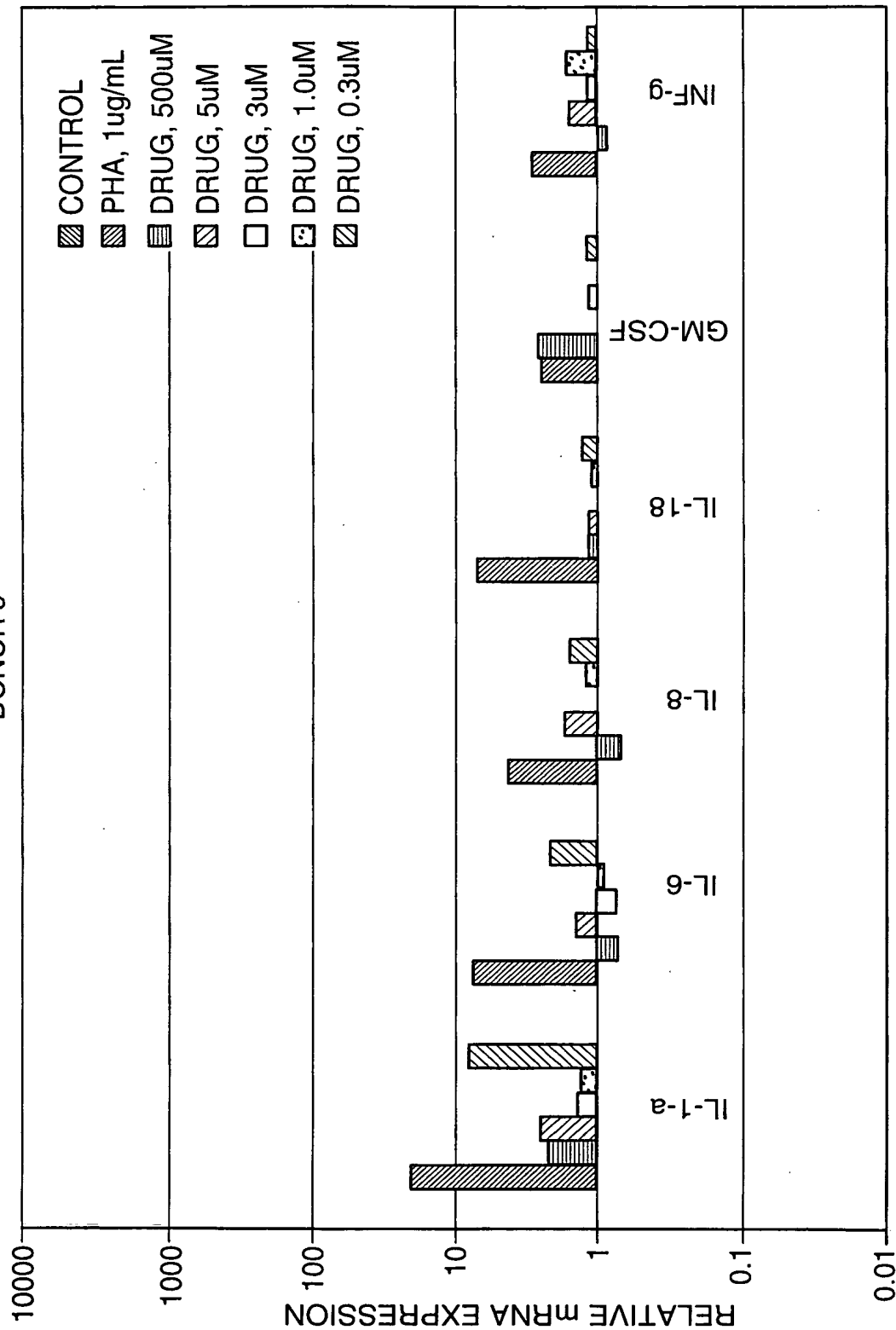


FIG. 18e

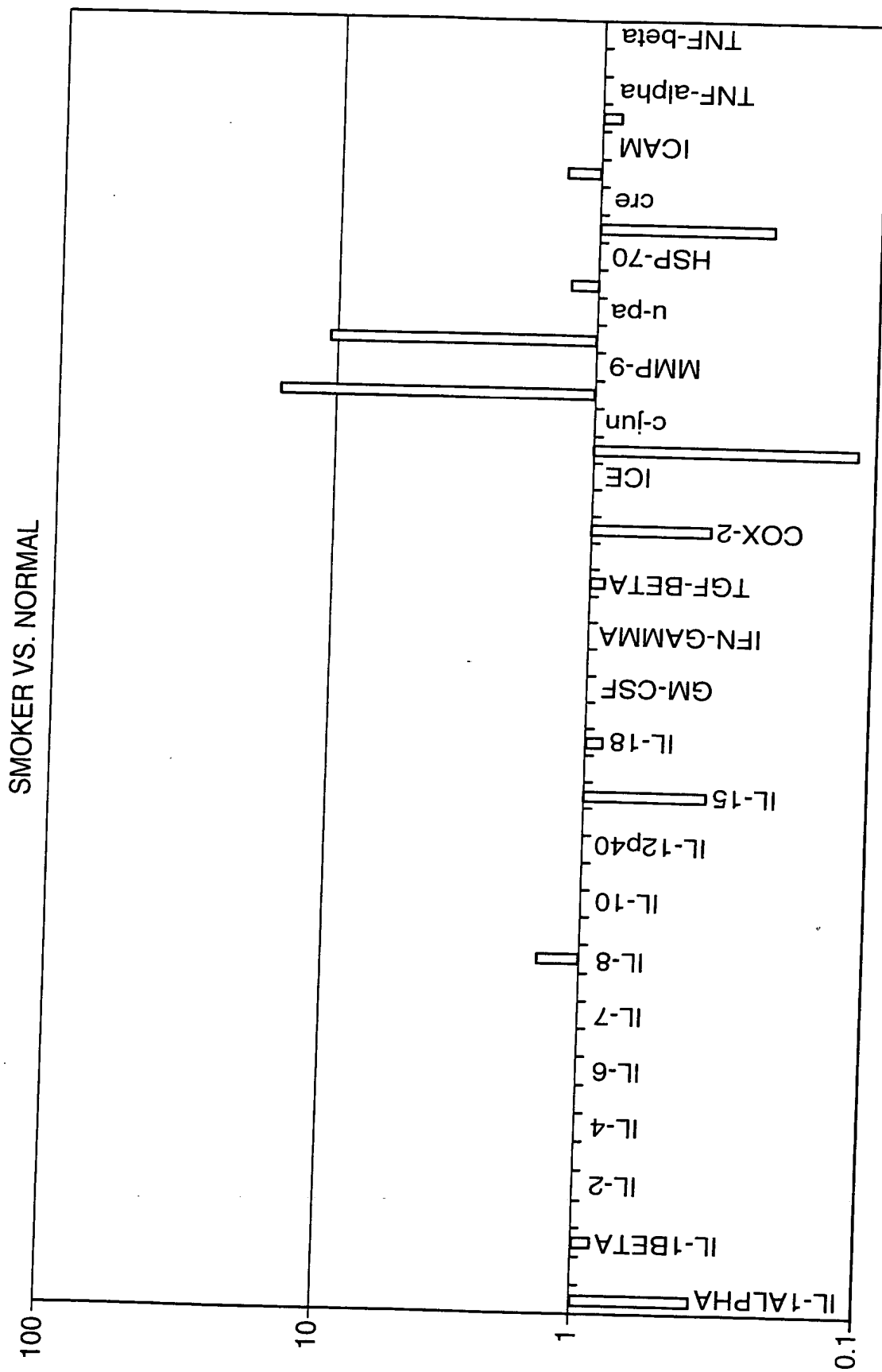


FIG. 19a

NAC PATIENT VS. NORMAL

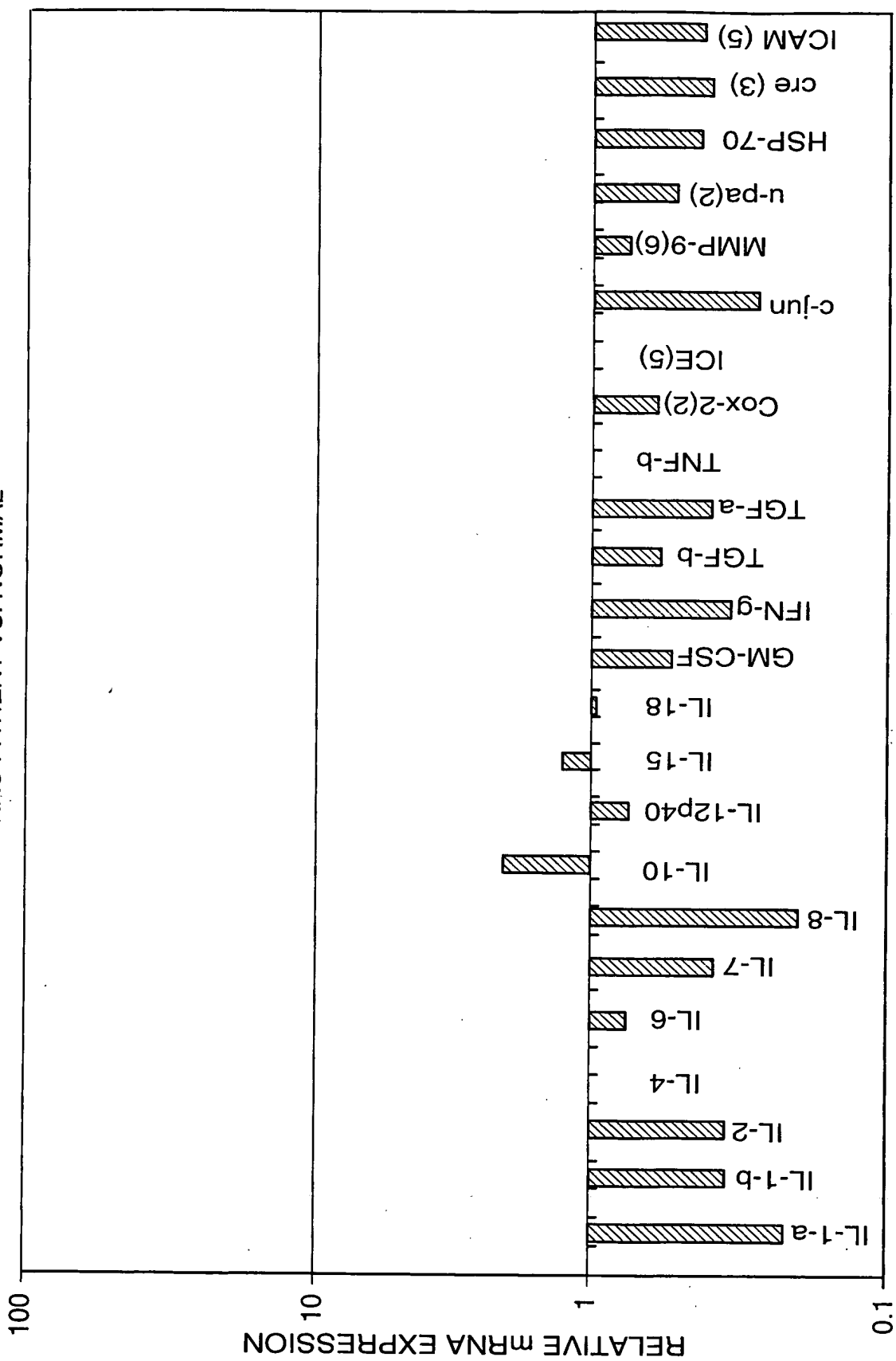


FIG. 19b

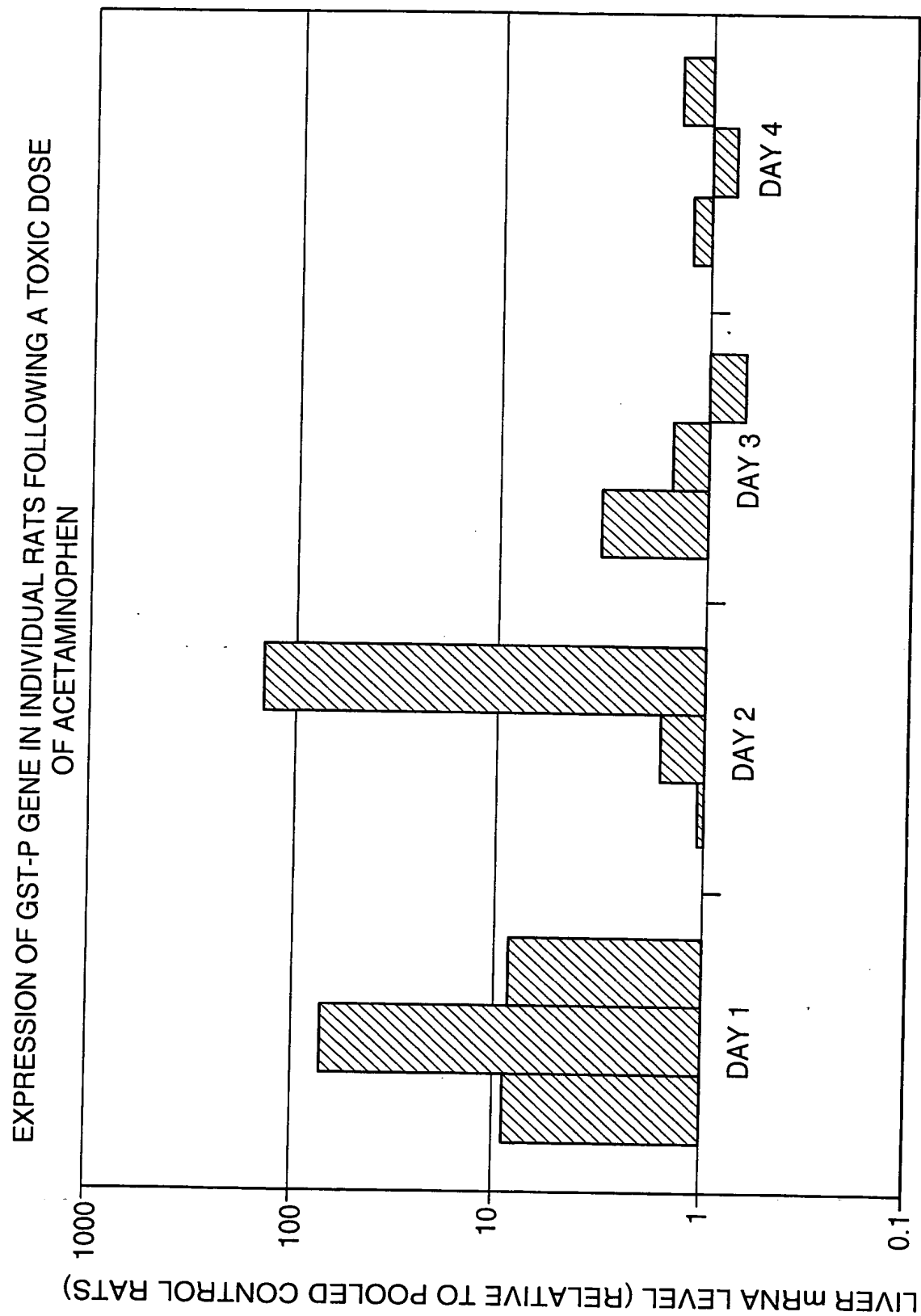


FIG. 20

COMPARATIVE HERBAL PROFILING SHOWS DIFFERENCES AMONG ANTI-INFLAMMATORY HERBS SUCH AS ECHINACEA, ARNICA AND SIBERIAN GINSENG

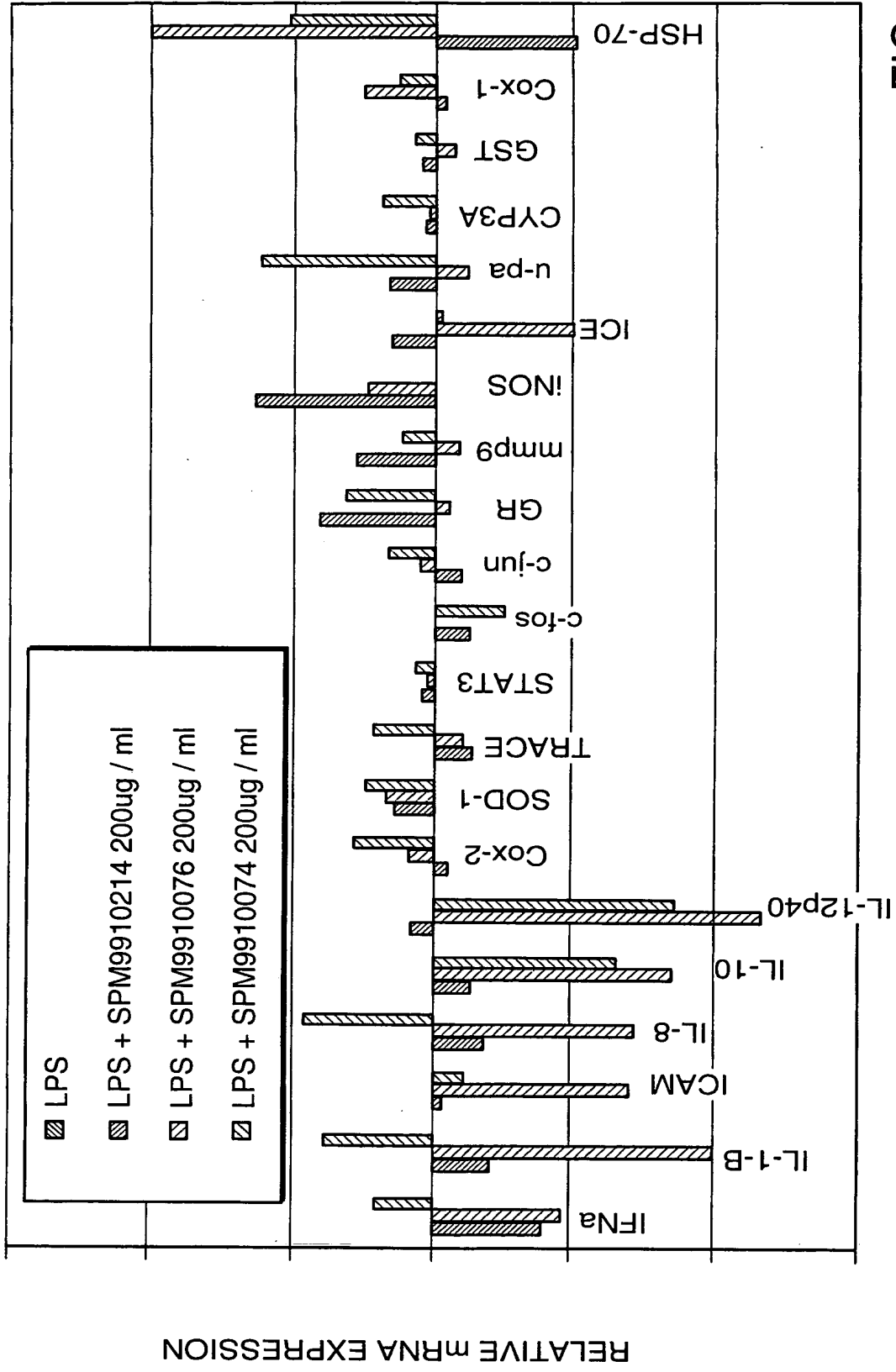


FIG. 21

991203 WHOLE BLOOD 6HR

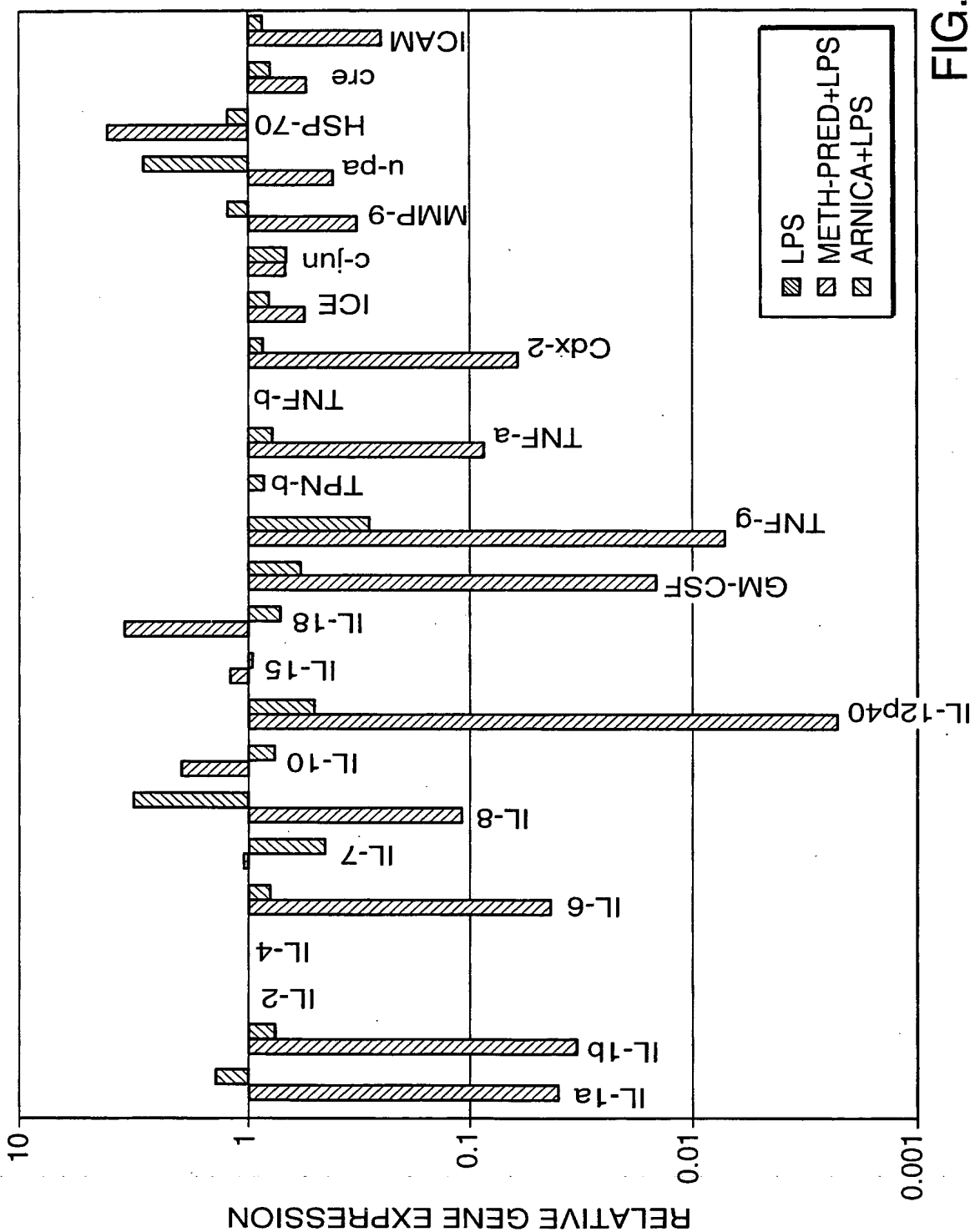


FIG. 22

PRECISION PROFILES CAN CORRELATE WITH A DOSE RESPONSE FOR A GIVEN HERBAL

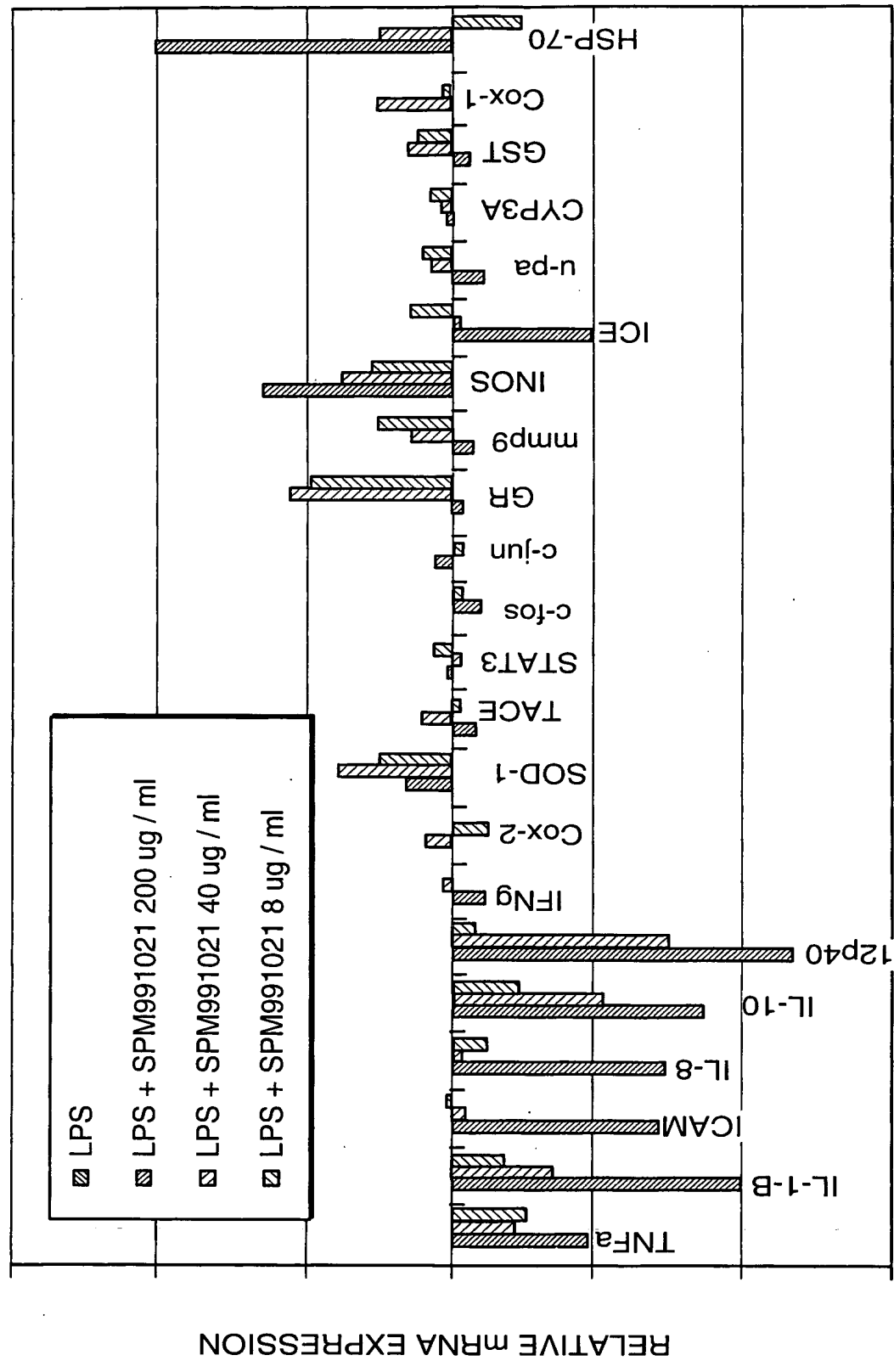


FIG. 23

PRECISION PROFILES REVEAL CONTAMINATION WITH ENDOTOXIN
AMONG DIFFERENT COMMERCIAL BRANDS AS REVEALED IN SPM010
AND SPM016

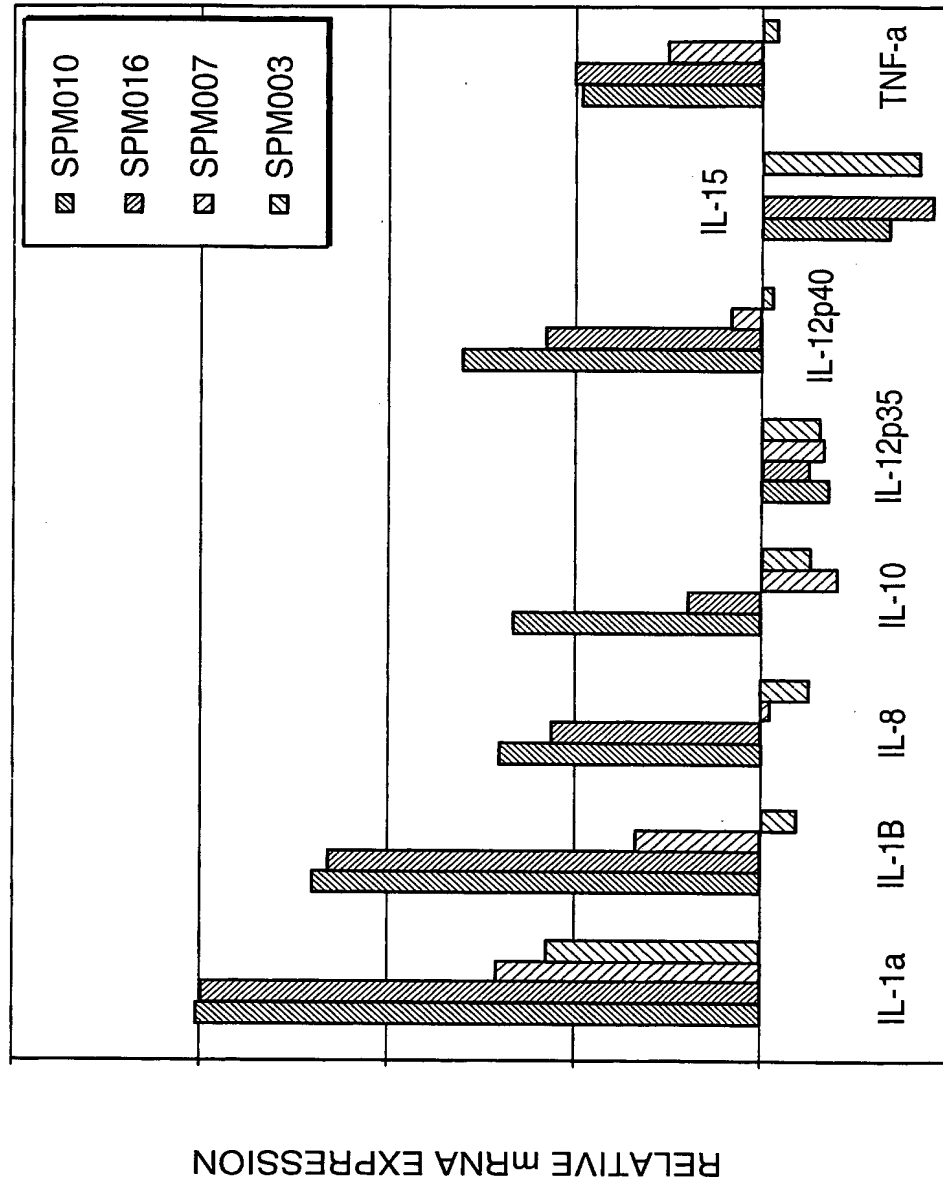


FIG. 24

HIGH DOSE COMPARISON OF UNSTIMULATED THP-1 CELL TREATMENT WITH THREE HERBAL PREPARATIONS SHOWS SIGNIFICANT VARIATION IN EFFICACY

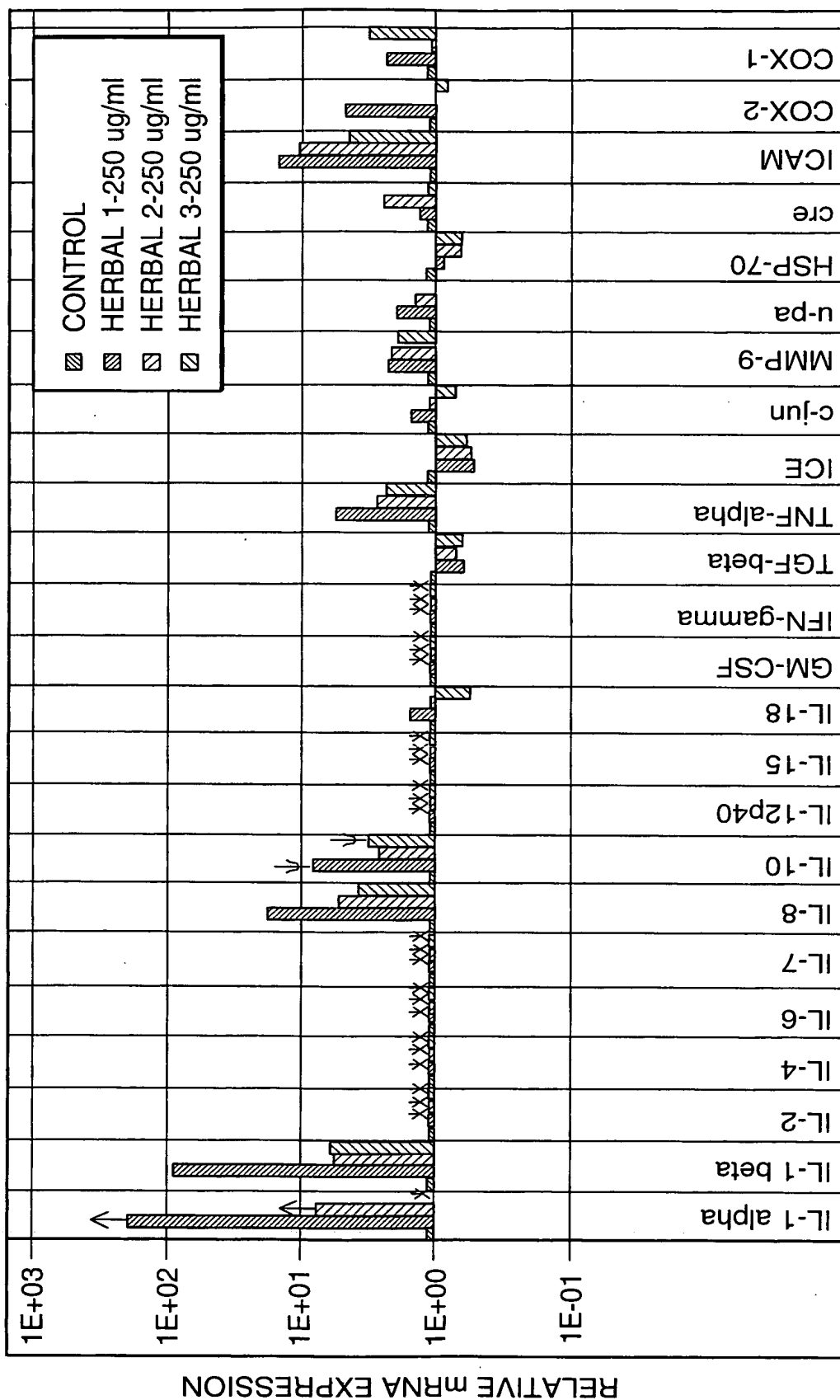


FIG. 25a

TREATMENT OF UNSTIMULATED THP-1 CELLS WITH A SINGLE
HERBAL SHOWS A NICE DOSE RESPONSE AMONG A SUBSET OF
GENES

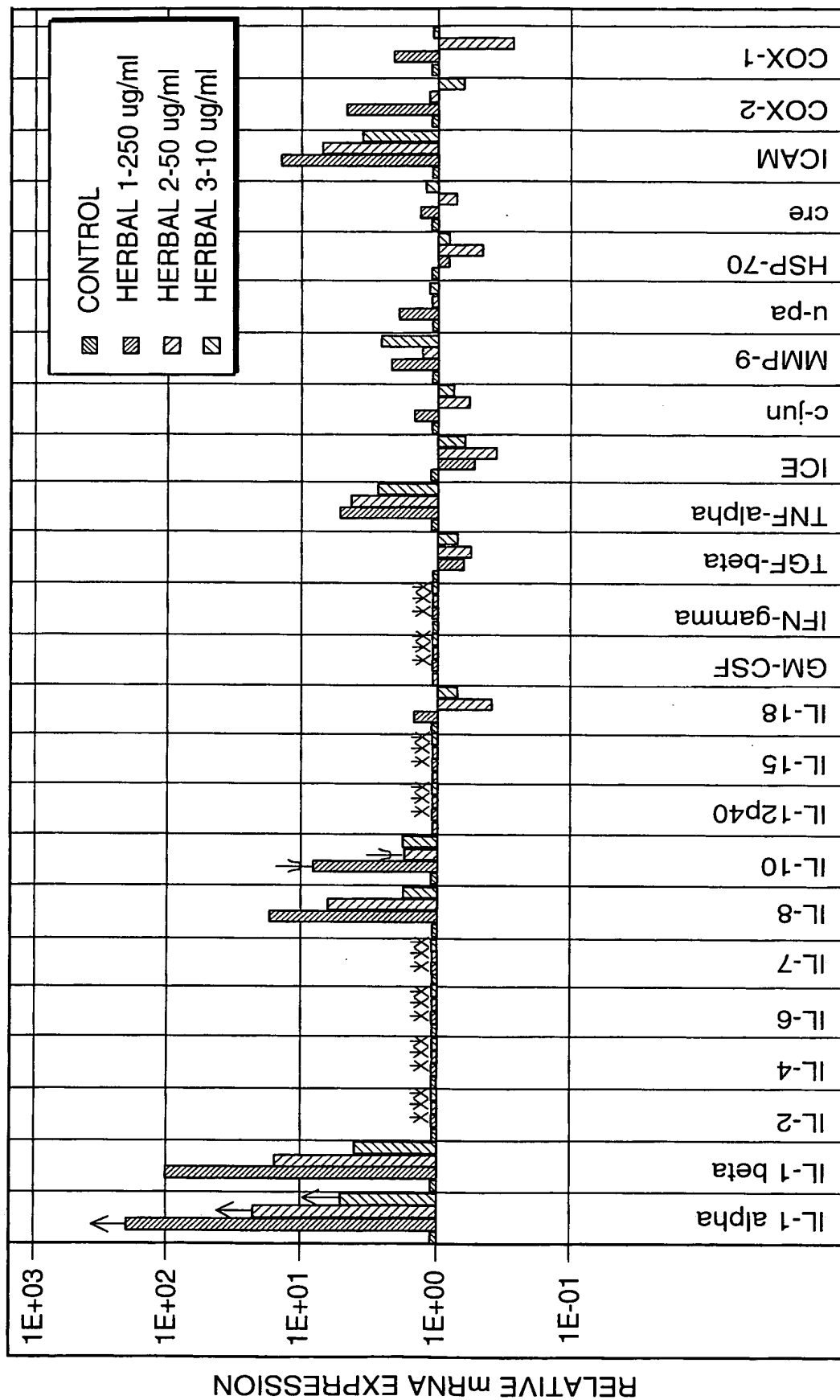


FIG. 25b

PRECISION PROFILES ALLOW FOR COMPARISON OF
COMMERCIAL ECHINACEAS (E1-E4)

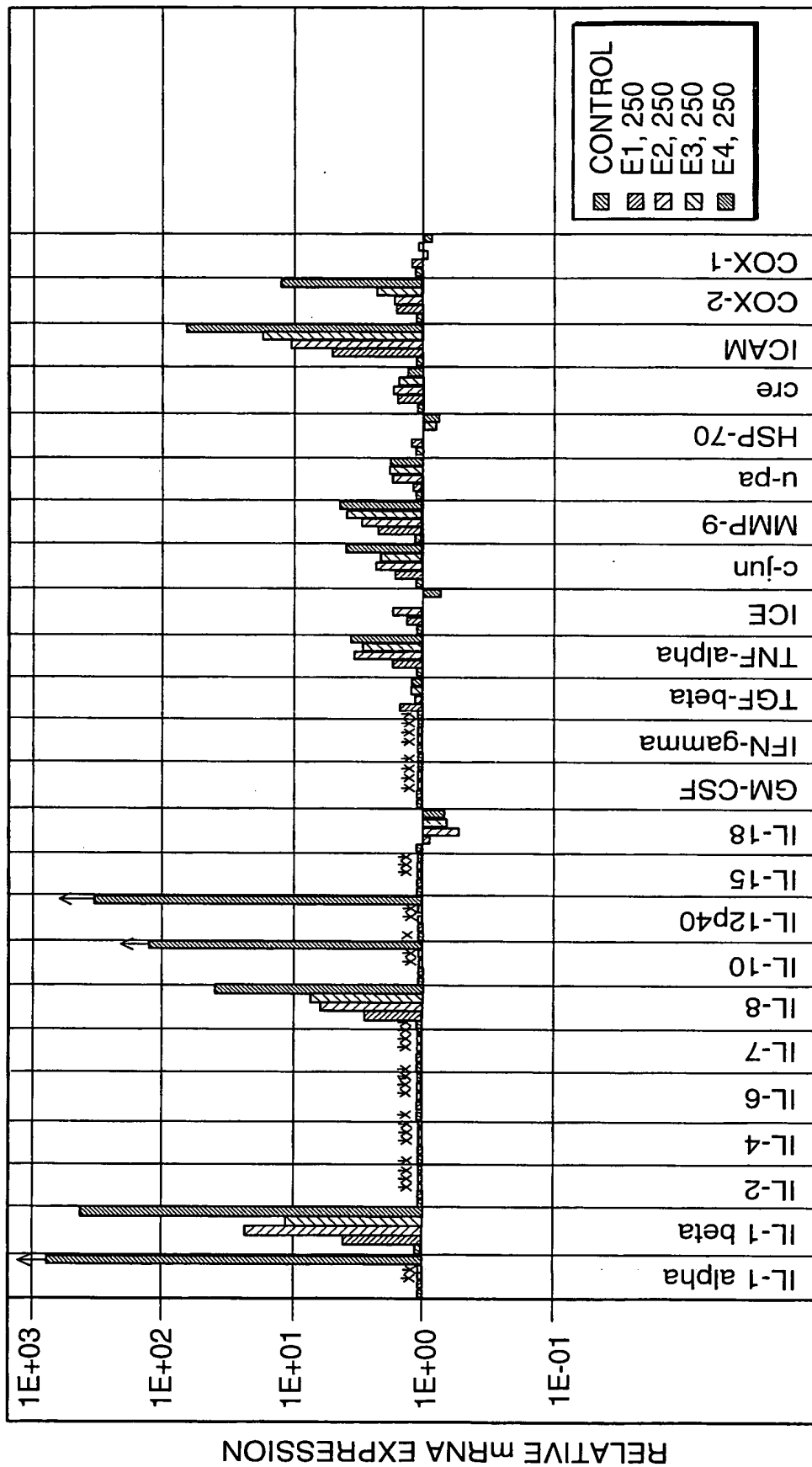


FIG. 25c

Figure 26. Inflammation Precision Panel Subset Demonstrates Steroid Response in 3 Day Study

Figure 26(a)

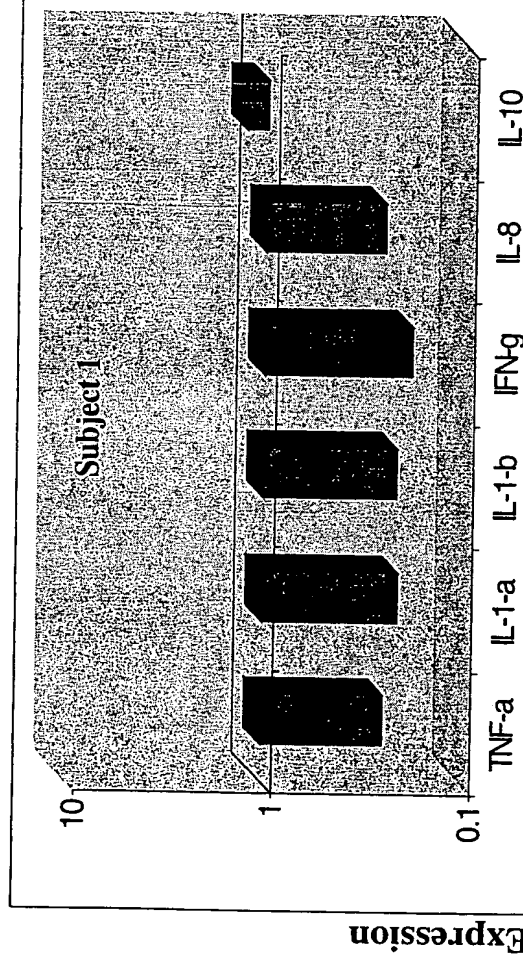


Figure 26(b)

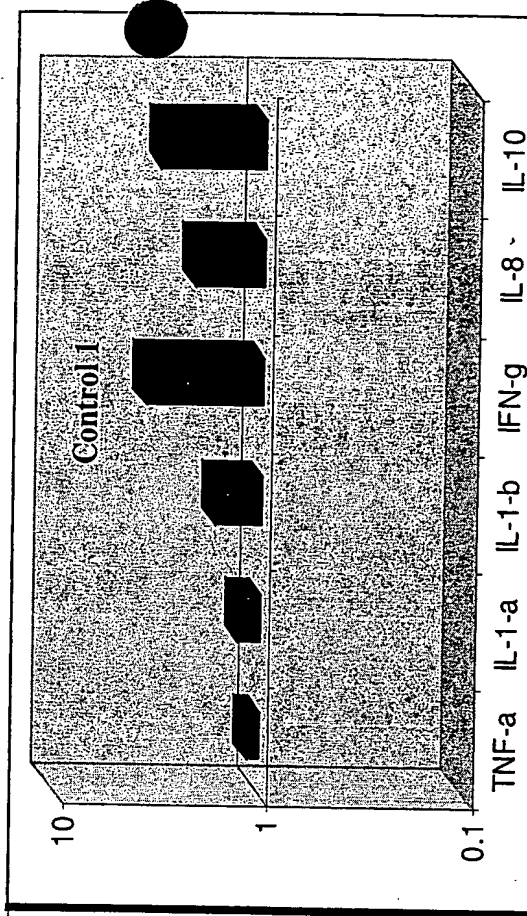


Figure 26(c)

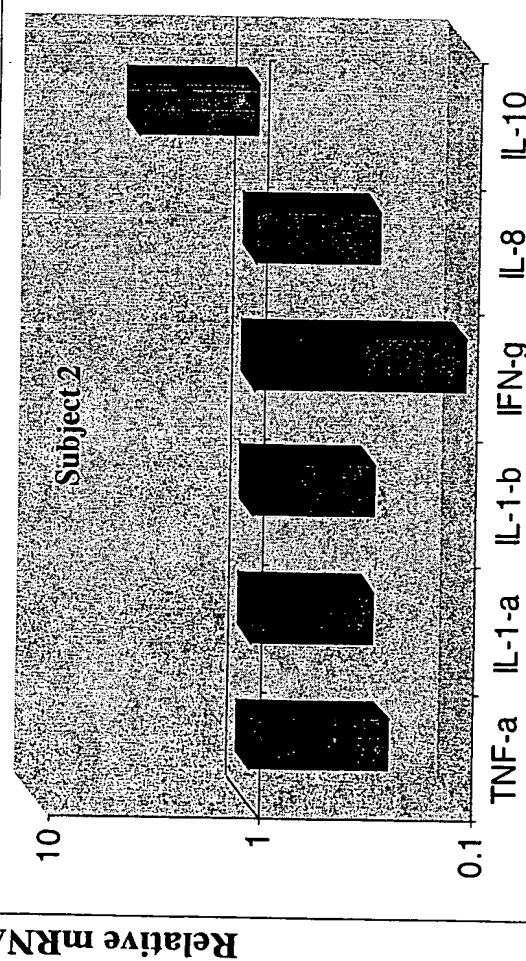


Figure 26(d)

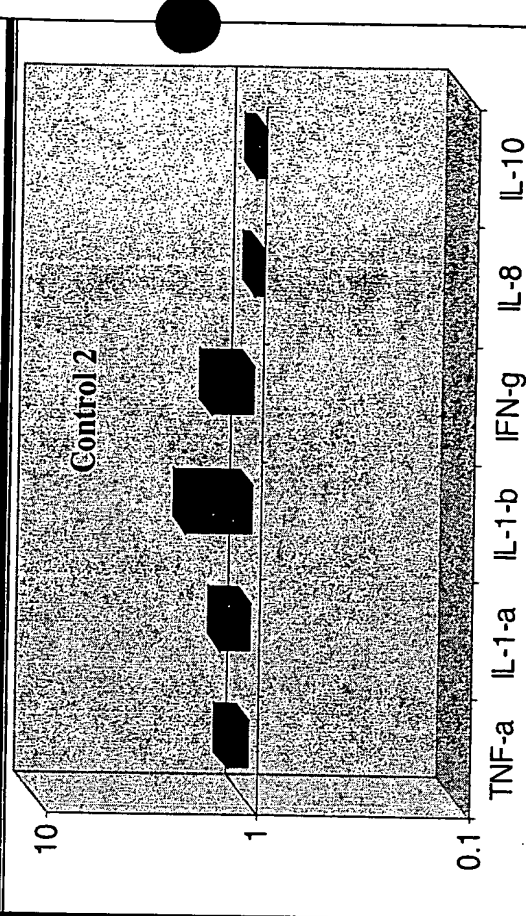


Figure 27. Comparison of Methylprednisone and High-Dose Ibuprofen in Patients Using Inflammation Precision Panel Subset

Figure 27(a)

Methylprednisone

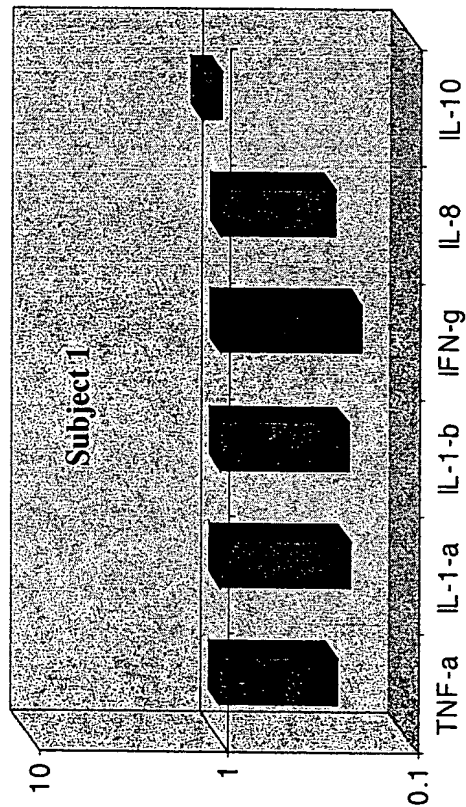


Figure 27(b)

Ibuprofen

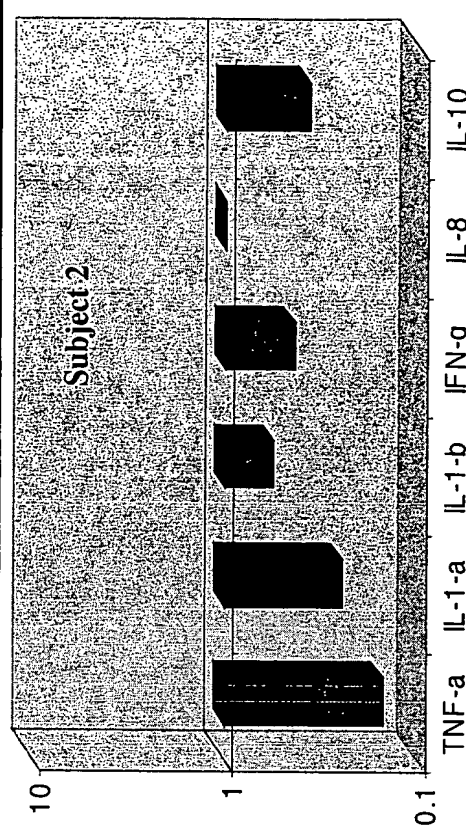
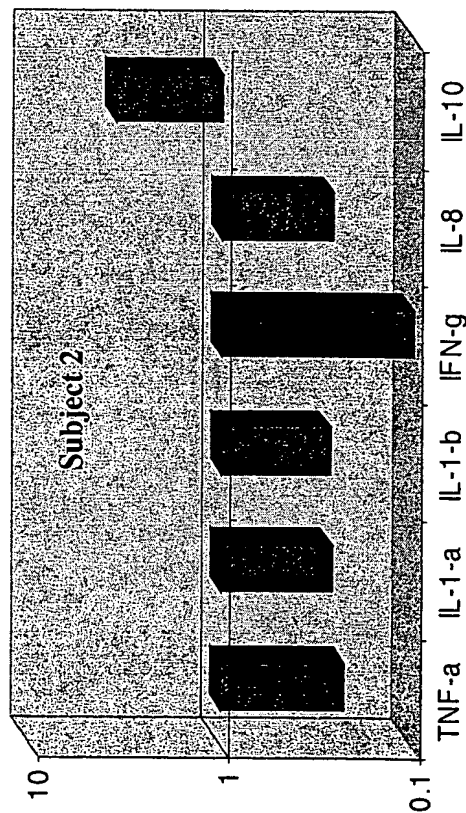
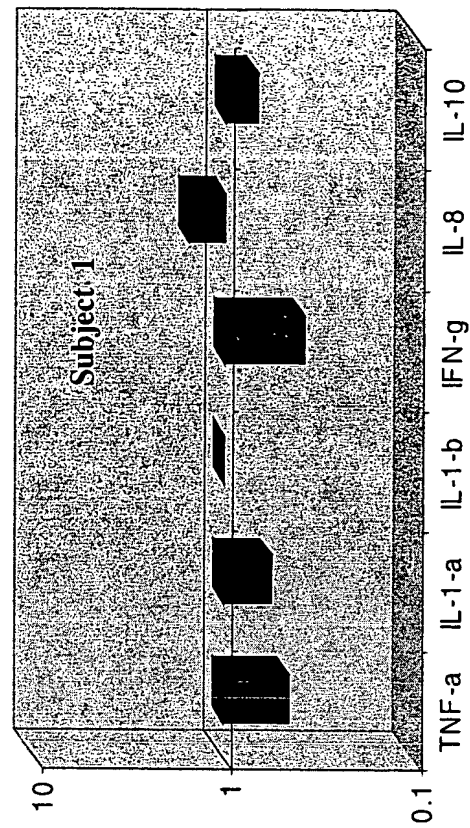


Figure 27(c)

Figure 27(d)

Figure 28. Inflammation Precision Panel Subset Identifies COPD Patients

Figure 28(a)

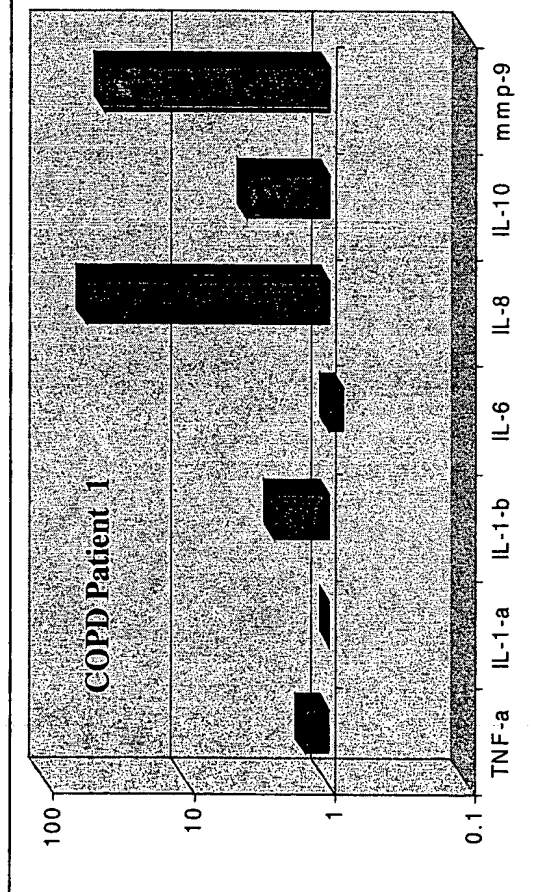


Figure 28(b)

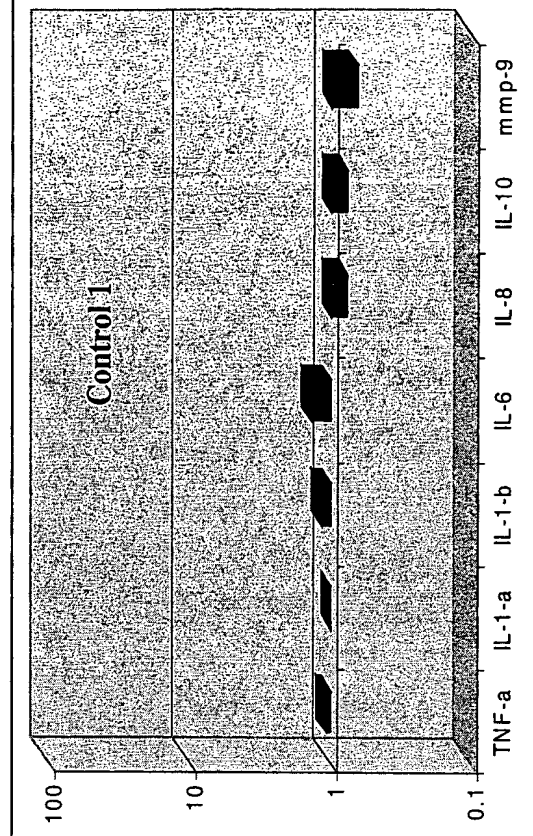


Figure 28(c)

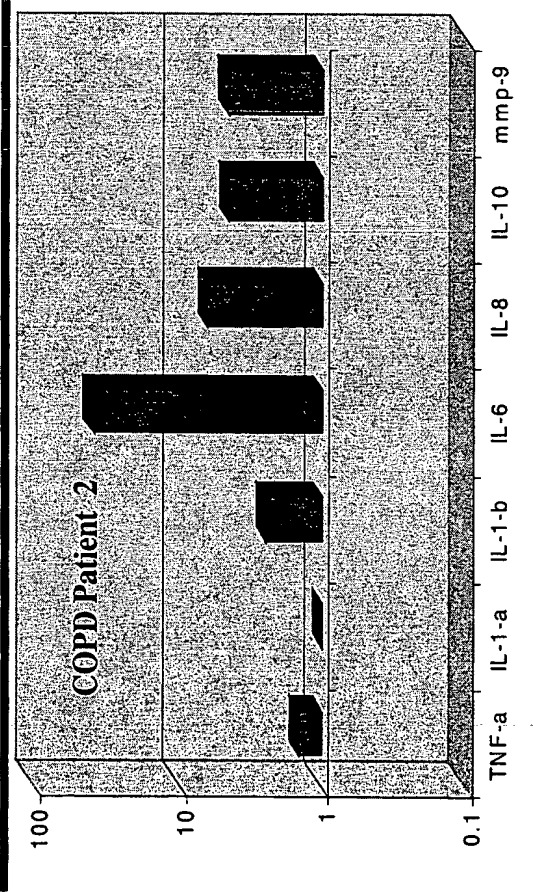


Figure 28(d)

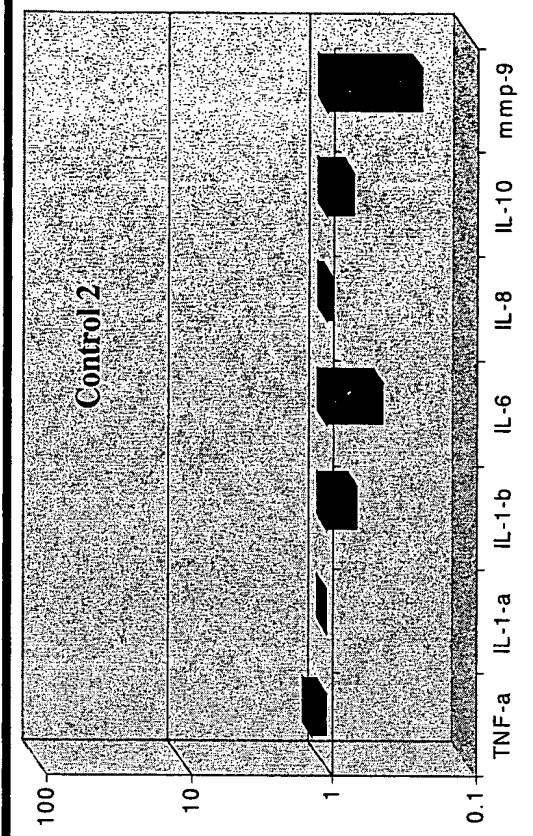
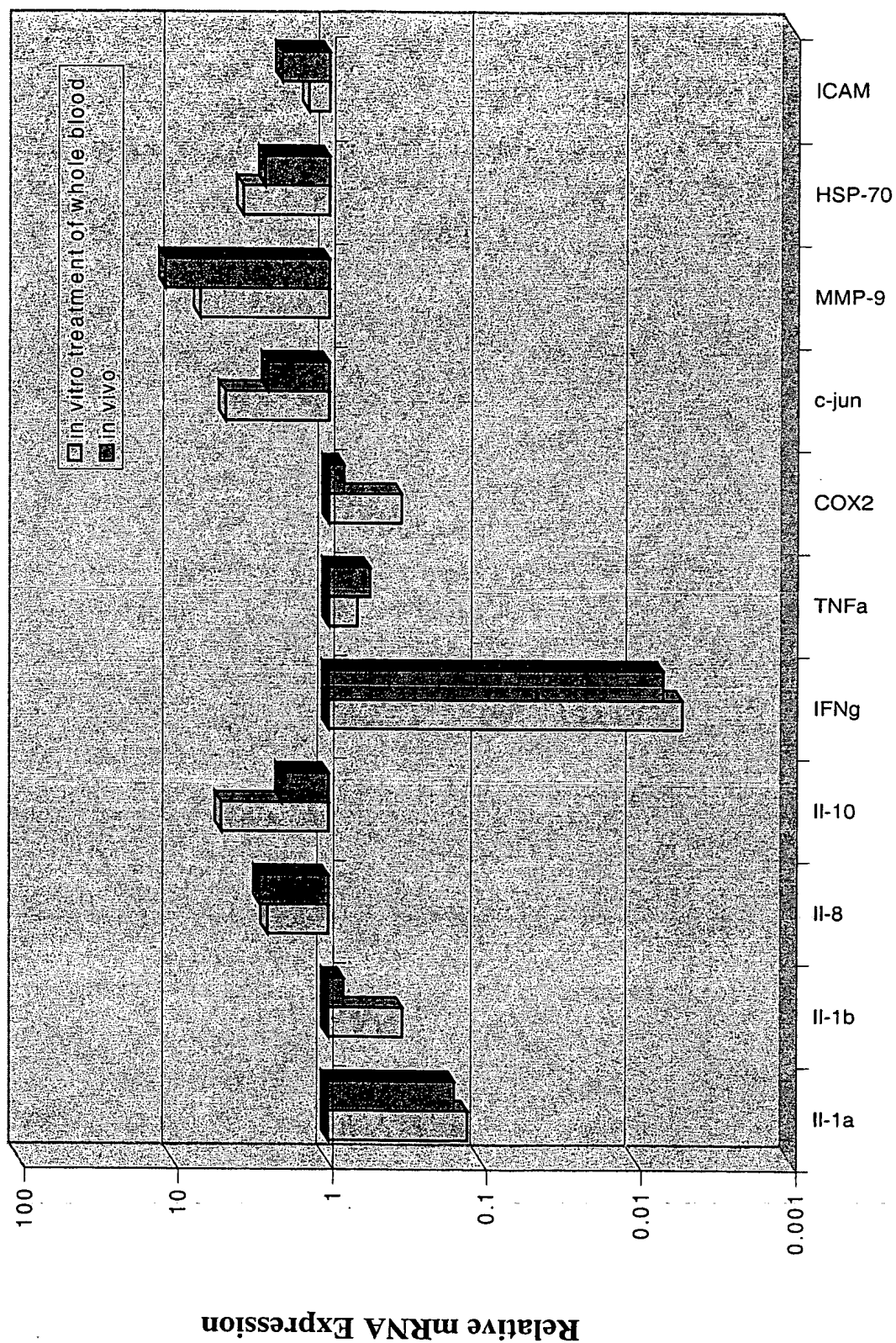


Figure 29(a). Comparison of Calibrated Profile Data Sets (Using Inflammation Precision Panel Subset)
After In-vitro and In-vivo drug exposure (Steroids) -- Study 1



August 2000
Subject 1JC

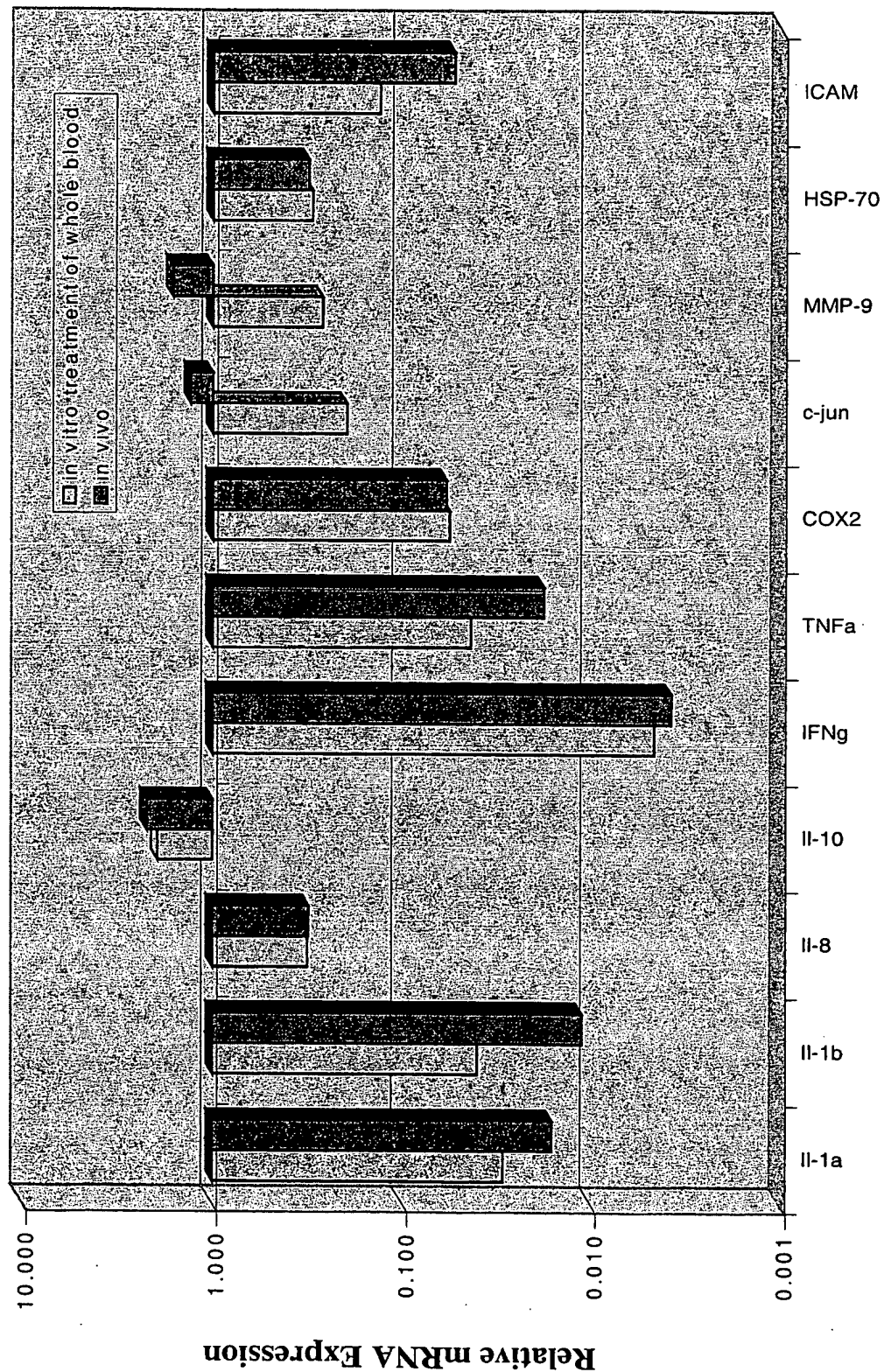


Fig. 30. Effect of different agents evaluated using a subset of the Precision Prostate Panel, and showing broad functions of panel constituents

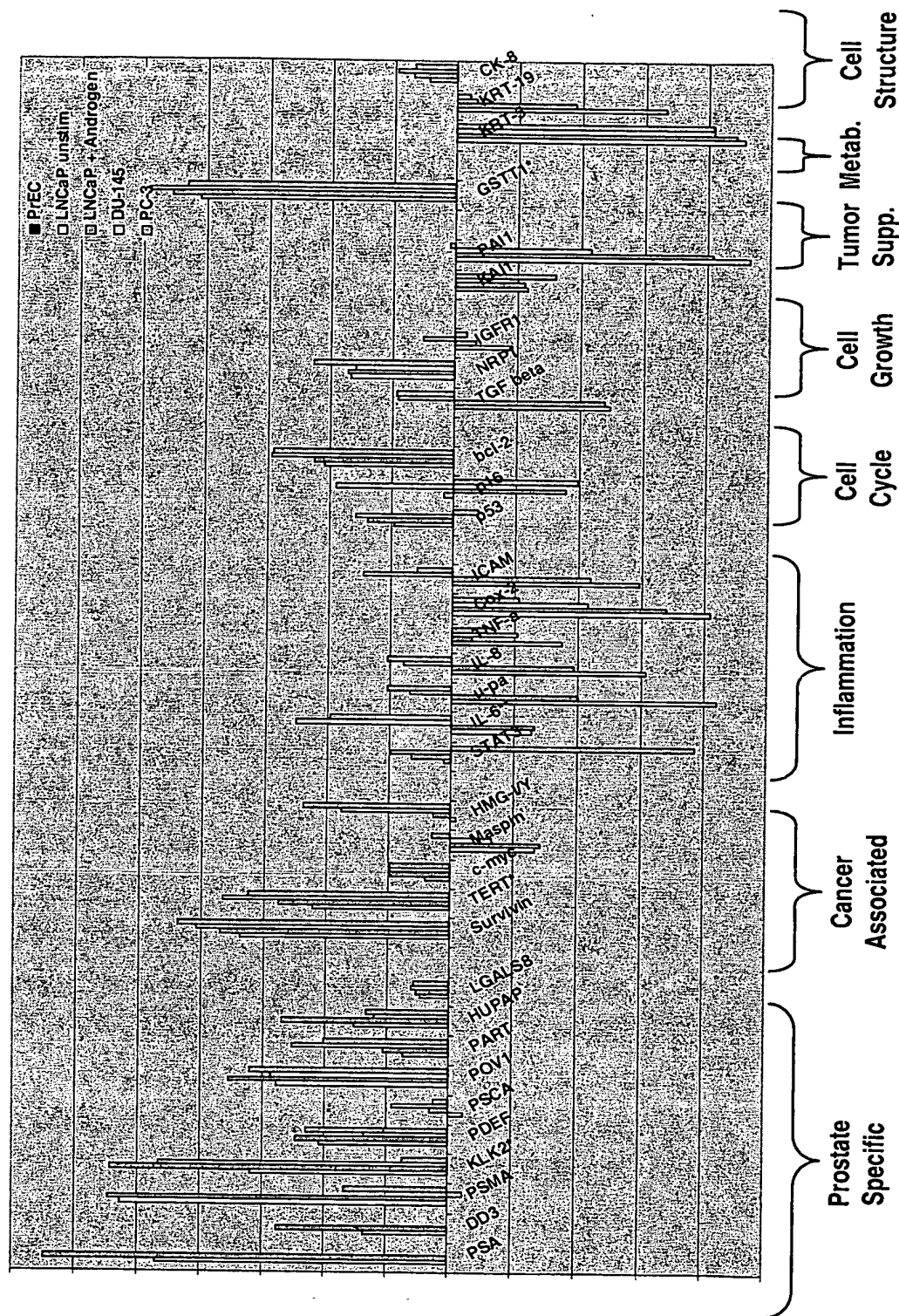


Fig. 31. Effect of the pharmaceutical clofibrate as measured on rat liver metabolism precision panel

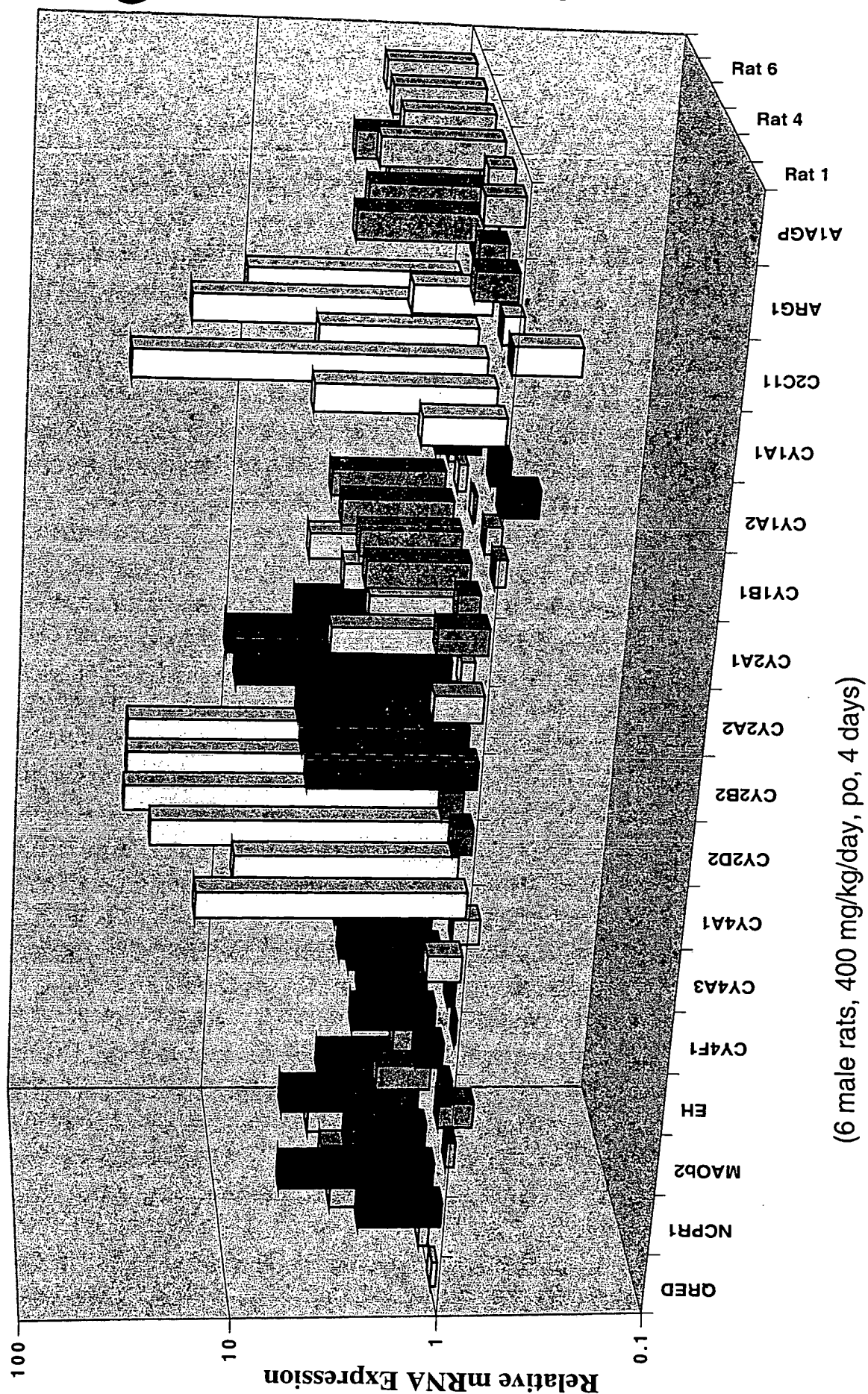


Fig. 32. A metabolism Precision Panel differentiates drug responses in rats.

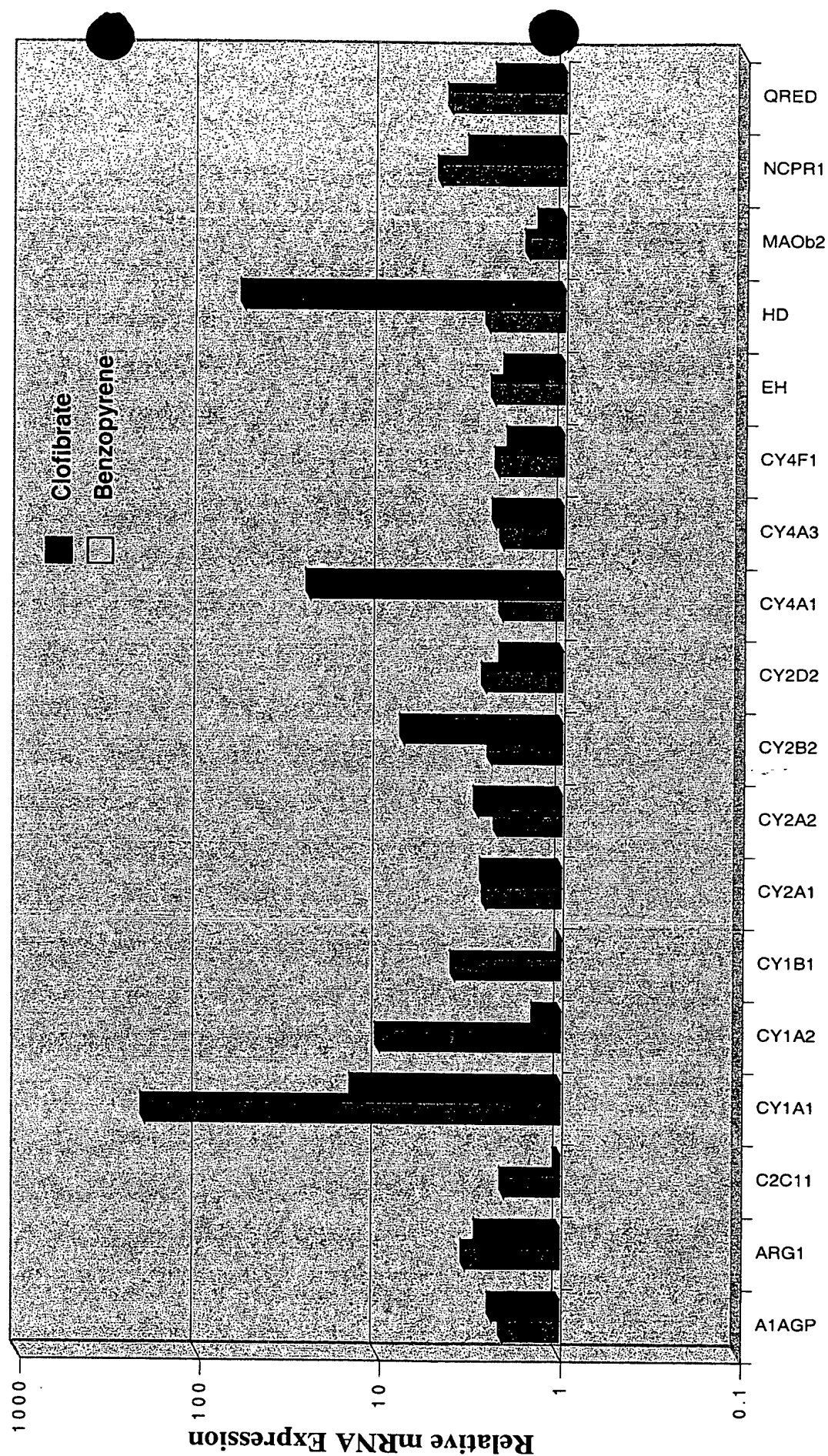
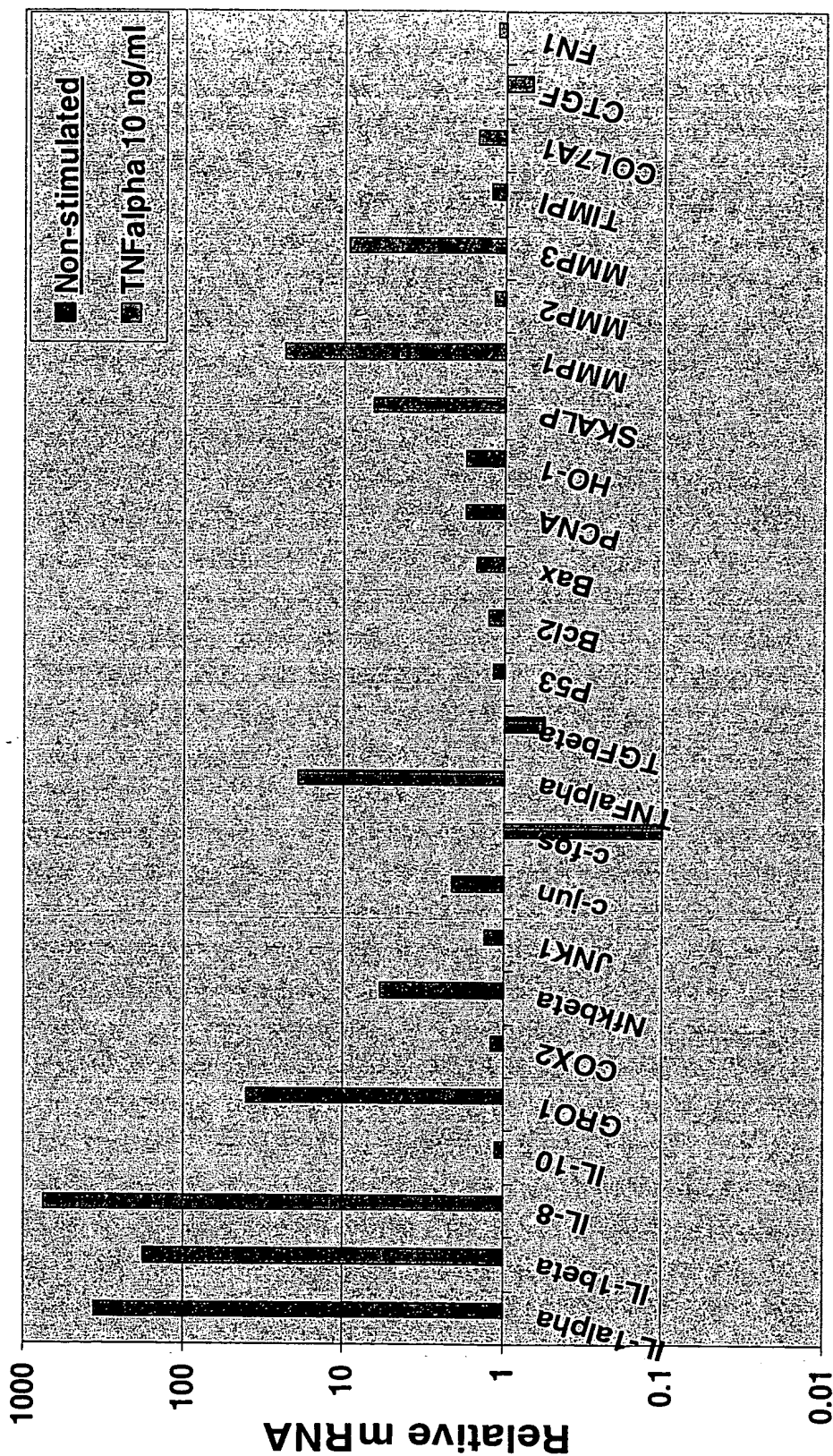


Fig. 33. A combination of the skin/epithelial and vascular precision panels show the effect of administration of a stimulant.



Skin Panel Genes

Figure 34: Example use of the human liver precision panel

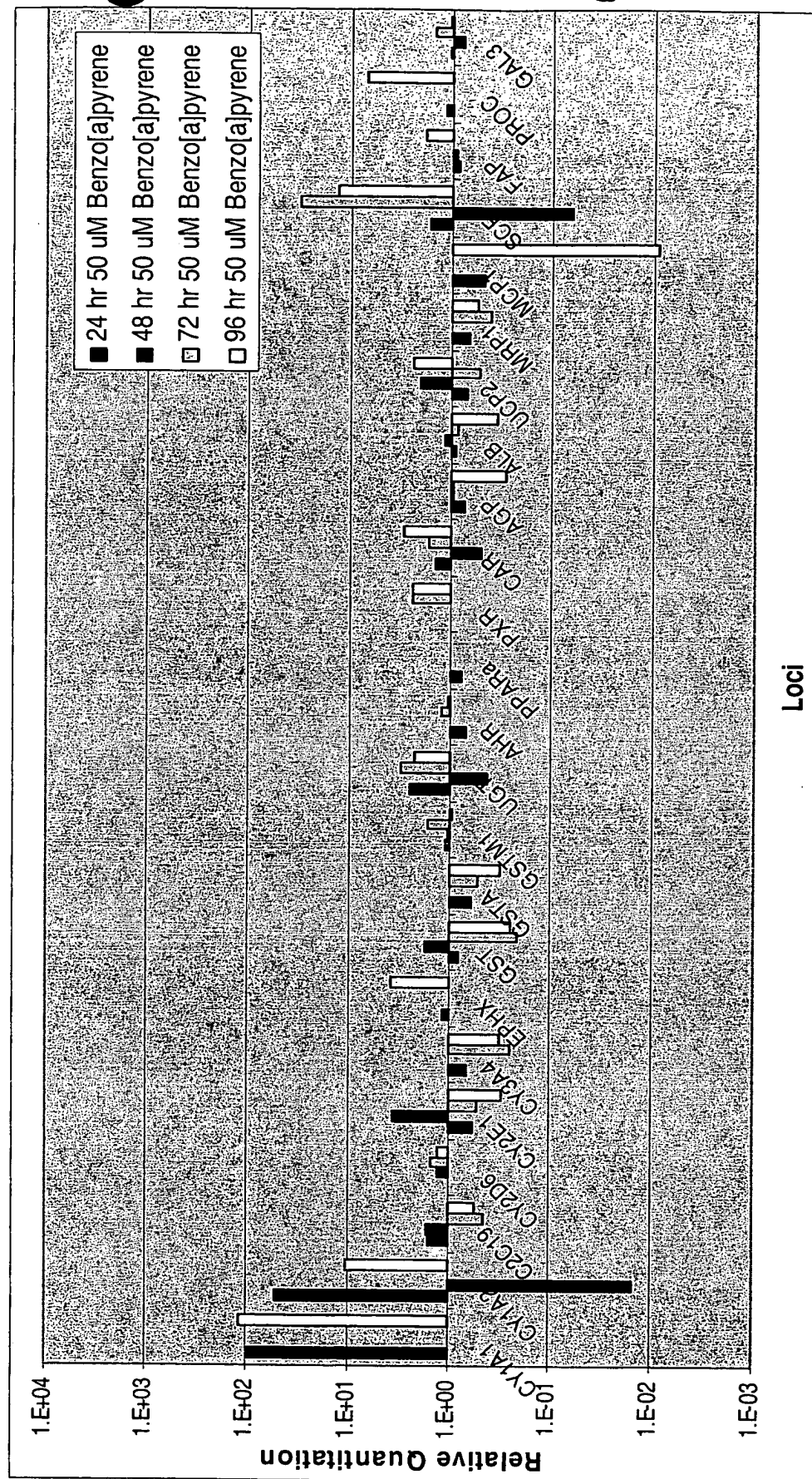


Figure 35. Human umbilical vein cells treated with TNF alpha and assayed on the vascular precision panel

HUVEC stimulated with TNF α , t = 24 hr

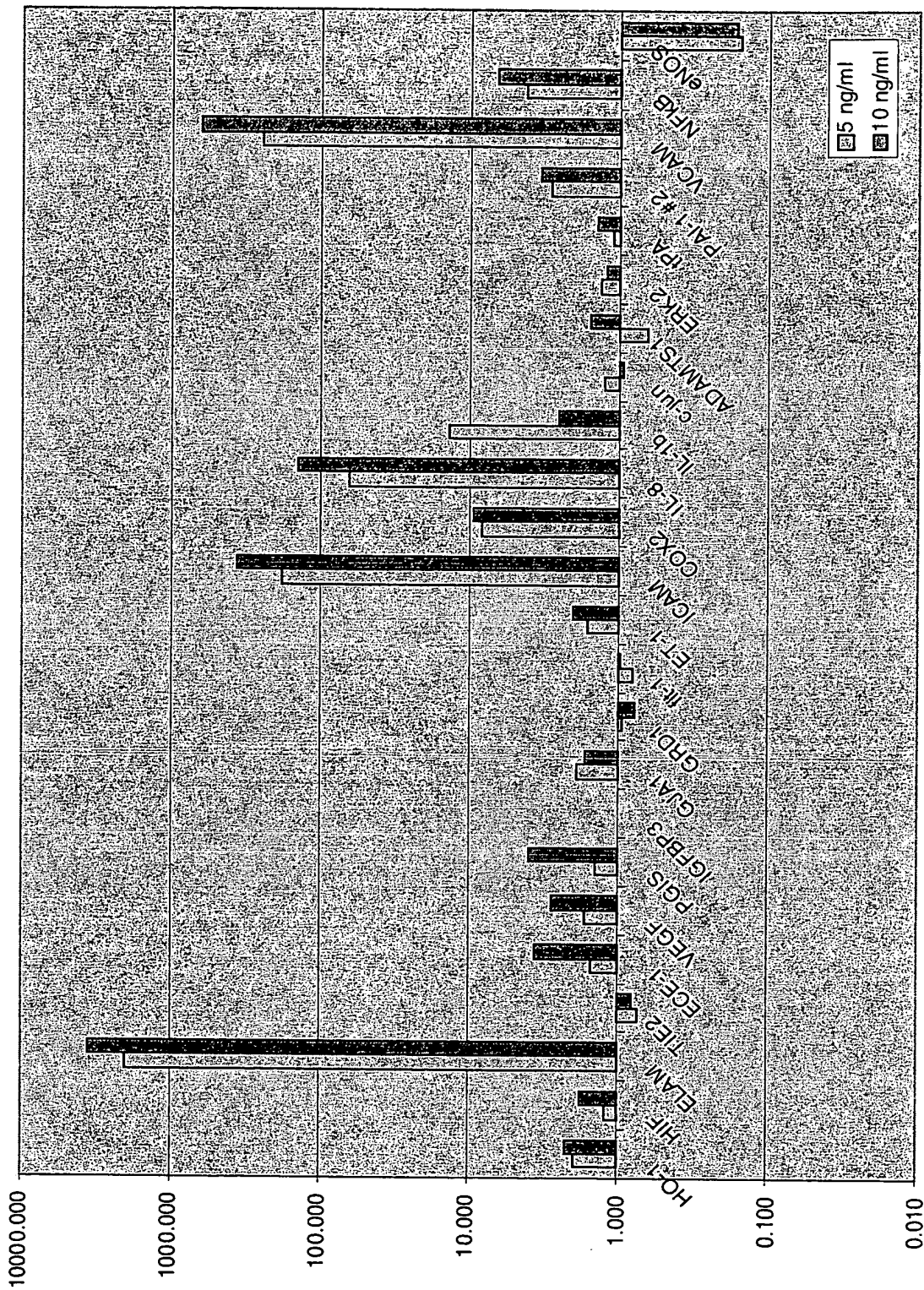


Figure 36. Assay of stimulated, human keratinocytes on the Skin Precision Panel

Effects of N-acetylcysteine on UVB-stimulated Keratinocytes

